NOAA Technical Memorandum NOS ORCA 91

Evaluation of the Condition of Prince William Sound Shorelines Following the Exxon Valdez Oil Spill and Subsequent Shoreline Treatment:

Volume III 1994 Summary of Chemistry Results

Seattle, Washington
July 1996

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

National Ocean Service

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Evaluation of the Condition of Prince William Sound Shorelines Following the Exxon Valdez Oil Spill and Subsequent Shoreline Treatment

Volume III 1994 Summary of Chemistry Results

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INTRODUCTION

In 1989, the T/V *Exxon Valdez* ran aground and released roughly 11 million gallons of North Slope Crude (NSC) into Prince William Sound, Alaska. Since 1990 the Hazardous Materials Response and Assessment Division (HAZMAT) of the National Oceanic and Atmospheric Administration (NOAA) has sponsored annual biological, geomorphological, and chemical monitoring studies to assess the effects of high-pressure, hot-water washing and the persistence of stranded oil on shoreline ecology and recovery. This report presents the chemistry results of the 1994 NOAA Shoreline Monitoring Study and includes documentation of the analytical analysis, NSC persistence on the Prince William Sound shoreline, and discussion of the oil weathering trends.

During the 1994 field surveys conducted during June and July, 180 biological and sediment samples were collected. The sampling emphasized the subsurface intertidal sediments at geomorphological study sites and intertidal shellfish at biological study sites. All samples were sent to the Institute for Environmental Studies at Louisiana State University (LSU) for detailed chemical analysis or archival. From this collection year, 83 samples were selected for detailed chemical analysis by GC/MS. The sediment samples selected for analysis by the geomorphology team and focused on persistent subsurface petroleum in the upper intertidal zone. The biological samples selected for analysis were primarily mussels (*Mytilus* sp.) with a limited number of clams (*Protothace sp.*) from the beach littoral zone. A few visible oil features, such as mousse, asphalt pavement, and sheens were also collected and analyzed for weathering characteristics.

SUMMARY

Gas chromatography-mass spectrometry (GC/MS) analytical results indicate aromatic hydrocarbon (AH) pollution derived from the 1989 *Exxon Valdez* oil spill still exists within Prince William Sound. NSC sourced from the T/V *Exxon Valdez* was present in 34 of the 35 monitoring sites surveyed as determined by detailed fingerprinting analysis. The heavily oiled sediments found at many of the geomorphological study sites were not observable on the beach surfaces, but were detected subsurface at varying depths. Certain biological sites, such as Block Island, contained contaminated surface sediments but observable primarily as sheens at low tides. The highest concentration of total

targeted AH (TTAH) was associated with sediment samples rather than the adjacent biota, but oil trapped in these sediments may provide a reserve of oil and a chronic source of shellfish tainting. From the tissues analyzed, the mussels appear to contain higher concentrations of petroleum than do clam samples. Weathering trends, noted as different patterns of petroleum degradation at different monitoring sites, are related to the physical and biological factors unique to the habitats where the samples were collected. The monitoring stations are designed to be representative of various habitats, but within the stations are environmental patchiness and microscale habitat variations that make replication and trend characterization difficult.

Observations from the 1994 chemistry data indicated the following:

- Geological samples collected in the upper intertidal zones show deeper oil penetration with a wide range of oil degradation. These upper intertidal sites are higher energy regions of primarily boulder/cobble geomorphology. For the samples analyzed some appear slightly weathered while others are extensively weathered; such differences reflect site-specific ecological influence.

- Subsurface sediment samples collected from sites classified as oiled and treated contained the highest petroleum concentrations and generally demonstrate the least extent of natural biodegradation observed. (This general observation may be biased by the limited number of sites studied.)

- Biological samples collected from oiled and untreated sites contained the highest petroleum concentrations detected in mussels and clams, but this observation may be biased by the Block Island samples.

- The data suggests a correlation between the concentration of residual oil on a beach to the bivalves occupying the same lower intertidal zones. The lower intertidal zones are generally lower energy with less persistent contamination. Clams and mussels at the same sites corresponding have lower body burdens of hydrocarbon contamination.

- Sampling strategy differences between geological and biological monitoring sites restrict direct correlation and assessment of the chemistry data. The geological survey emphasized sampling the upper oiled subsurface sediments while the biological survey targeted the middle and lower intertidal zones. As a result, the

majority of the sediment samples were from the upper-intertidal zones, while most the tissue samples were from the lower.

Petroleum degradation assessment for the Prince William Sound monitoring stations targeted the AH fraction of NSC. The TTAH component in NSC is roughly two percent of the bulk oil and the more recalcitrant, toxic component. By quantitation of the individual TTAH components, a chemical weathering comparison by various beach classifications was investigated. The surface-sediment samples collected in the upper-intertidal zones were primarily highly weathered or highly biodegraded. Less weathering was noted in samples collected from the middle intertidal zone and no oil, or only trace concentrations, were detected in the lower intertidal sediments. The degradation trends appear to be influenced by sediment size and beach exposure, such as highly exposed boulder cobble beaches, which support oil penetration sheltered from photolytic degradation. Most heavily oiled subsurface sediment samples were slightly to moderately degraded. Many of the trends reported in this report are generalizations. It must be acknowledged that exceptions do occur, such as the oiled lower intertidal zone for Block Island and highly degraded subsurface samples for Knight Island. Such anomalies could be due to shoreline cleanup, treatment procedures, or ecological factors. Long-term oil persistence is linked to many factors including cleanup, beach type (physical energy), microbial community, and overall beach ecology.

For each basic shoreline classification, there are various microhabitats or microenvironments that alter the expected oil persistence and weathering patterns observed and should be considered when evaluating weathering trends on broadly categorized beaches. Surface sediment samples may be exposed to a more rigorous mechanical and photo oxidizing weathering than oil that has penetrated deep into the beach subsurface. Mousse samples located underneath rocks in wave shadows have been protected compared to oiled surface sediments and represent a different type of oil feature. Sheens could still be observed at certain study sites with fine grained sediments, representing another oil feature. All sheen samples were enriched with naphthalene constituents compared to surface or subsurface sediment samples and are a possible source of intertidal bivalve contamination. For the 1994 data analysis, the monitoring sites for the abiotic and boitic samples were considered as independent samples initially, to determine degradation correlations, then categorized by the specific site characteristics, such as beach profile, sediment type, and physical exposure. From these basic

classifications anomalous sites will be apparent that should require further microhabitat descriptions.

Clearly, bivalves at different sites exhibited varying levels of oil tainting, and it appears that the animals with higher body burdens are generally located adjacent to chronic sources of oil pollution, whether the pollution is residual *Exxon Valdez* oil or chronic pollution from harbor activities such as the Whittier and Chenega Docks. The bivalves at Block Island are a clear example of this trend with chronic sheens and persistent oil still found in Block's lower intertidal zone. The concentration of oil body burden for the Block Island bivalves is significantly higher than at other monitoring sites. A sample of mussels collected at the dock in Whittier Harbor contained the highest concentration of AH for all samples collected in 1994. The sediments may act as reservoirs of oil for shellfish tainting. At any given location, mussel body burdens of TTAH were greater than that detected in clams. As a function of treatment, clams collected from oiled and untreated sites contained significantly higher level of TTAH body burden than oiled and treated sites. No clear difference was observed in the mussel data.

METHODOLOGY

Analytical methods are consistent with the methods used in the 1990-93 Shoreline Monitoring Study and reported separately (Henry and Overton 1993, Roques et al. 1994). The analysis approach targeted specific compounds selected by the following criteria:

- Hydrocarbon constituents common to crude oils.
- Specific compounds generally associated with chronic oil toxicity.
- Oil constituents that have value in differentiating between petroleum and other sources of hydrocarbon pollution, both natural and anthropogenic (e.g., terrestrial plant waxes and combustion by-products).

Selected target analytes for both qualitative and quantitative analytical analyses include the following classifications:

- Individual saturated hydrocarbons (the normal alkanes and isoprenoids between nC-9 and nC-35).

- Polynuclear aromatic hydrocarbons (PAH) including the dominate alkylated homologues in oil.
- Sulfur heterocyclic AH and related alkylated homologues.
- Oil biomarkers consisting of the sterane and hopane series.

Oil is a complex mixture of biogenic components, but for chemical characterization and source fingerprinting, specific compounds are selectively quantitated. The most useful group of target analytes in oil are the 2- to 6-ring aromatic and sulfur heterocyclic hydrocarbons and their respective alkyl-substituted homologues. Although the TAH represent less than 5 percent of the bulk composition of most oils, they are essential to characterize petroleum source, identify potential biological effects, determine exposure pathways, and monitor weathering trends and degradation of the oil (Sauer and Boehm 1991). Oil biomarkers such as the hopane series may not always be present in refined oil products and are of limited value in assessing levels of petroleum source pollution.

Since hydrocarbons are naturally present in the environment, detailed chemical analyses are required to confirm the presence of oil and differentiate the types of hydrocarbons detected in a monitoring study. AHs are extremely useful in differentiating petroleum from by-products of combustion. Oil is generally characterized by PAHs composed primarily of 1-, 2-, and 3-ring aromatic compounds with a preference for alkyl-substituted alkanes (e.g., 2-, 4-, 5-trimethylphenanthrene, one of many C-3 phenanthrene homologues). PAH resulting from incomplete combustion is characterized by 3-, 4-, and 5-ring aromatic compounds with few substituted alkyl homologues. Differences between background aromatic hydrocarbons derived from natural events such as forest fires and residual oil pollution is a key element in this study.

Standard EPA methodologies are inadequate for assessing petroleum pollution since they lack key target compounds characteristic of oil. While no standardized methodology currently exists, there is fundamental acceptance by the research community and regulatory agencies for GC/MS petroleum analysis in oil spill response and monitoring studies. GC/MS provides a very powerful means of separating oil constituents, and is a sensitive, highly selective tool for characterizing spilled oil samples. GC/MS procedures are widely accepted for oil spill response activities, oil fate and effects studies, and baseline pollution monitoring (Overton et al. 1981, Boehm and Farrington 1984, Michel et al. 1991, Sauer and Boehm 1991, Sauer et al. 1993, and Henry

et al. 1993). GC/MS provides highly selective source-fingerprinting information as well as compound specific quantitative results for target aromatic and aliphatic hydrocarbons. Fingerprinting is a term used to describe the analytical process of analyzing a petroleum sample and comparing the results to a known crude oil or petroleum product to determine if the sample is characteristically the same and, therefore, possibly from the same source or if it is from another source. A general outline of the analytical procedure follows:

GC/MS Method

The GC flow rate and temperature program was optimized to provide the required degree of separation. The desired degree of separation includes phytane and n-C18 baseline resolved and pristane and n-C17 near baseline resolved. The GC temperature program follows: initial column temperature of 55°C for 3 minutes, then increased to 290°C at a rate of 5°C per minute and held at the upper temperature for 15 minutes. The injection temperature was set to 250°C with high-temperature and low-thermal bleed septa used. The **MS** interface was maintained at 290°C. Ultra-high purity helium was used as the carrier gas. The quadruple **MS** was operated in the multiple ion detection mode (MID) or selective ion mode (SIM), to maximize the detection of several trace constituents with the selected ions for each acquisition window scanned at 1.25 scans/sec or greater. For quality assurance (QA) and quality control (QC) the **MS** was tuned to perfluorotributylamine (PFTBA) and a quantification standard analyzed daily. A NSC reference oil obtained from the hull of the T/V *Exxon Valdez* was analyzed daily. Internal standards composed of naphthalene-d8, anthracene-d10, chrysene-d12, and perylene-d12 were co-injected with each analysis to monitor the instrument's performance during and were corrected by internal standard quantification for deviations in the instrument's performance.

Selection of Target Analytes

The target analytes may be a single compound or isomers quantified as a single group. The TAH listed in Table 1 exceeds the EPA priority pollutant list with many target analytes existing not as single compounds, but as isomer groups such as the C-2 naphthalene homologues. Quantification of the nonalkyated PAH and the saturate alkanes is based on authentic standards. The alkylated homologues are generally quantified by response factors generated by the unalkylated parent, e.g., the response factor generated for naphthalene (C-0) is used to calculate the C-1 through C-4 naphthalene homologues. Surrogate standards injected with each sample are

quantitated for extraction efficiency; the surrogates include acenaphthene-d10, phenanthrene-d10, and terphenyl-d14. Results for all analytical methods are reported as a function of wet weight, with dry weight values provided for tissue correction.

Table 1. Target compounds assessed by GC/MS.

Compound	Ion	Mass
alkanes* (nC-10 through nC-31)		85
decalin*	138	
C-1 decalin*	152	
C-2 decalin*	166	
C-3 decalin*	180	
naphthalene		128
C-1 naphthalenes	142	
C-2 naphthalenes	156	
C-3 naphthalenes	170	
C-4 naphthalenes	184	
fluorene	166	
C-1 fluorenes		180
C-2 fluorenes		194
C-3 fluorenes		208
dibenzothiophene	184	
C-1 dibenzothiophenes	198	
C-2 dibenzothiophenes	212	
c-3 dibenzothiophenes	226	
phenanthrene		178
C-1 phenanthrenes		192
C-2 phenanthrenes		206
C-3 phenanthrenes		220
naphthobenzothiophene	234	
C-1 naphthobenzothiophenes		248
C-2 naphthobenzothiophenes		262
C-3 naphthobenzothiophenes		276
fluoranthrene/pyrene		202
C-1 pyrenes	216	
C-2 pyrenes	230	
chrysene	228	
C-1 chrysenes	242	
C-2 chrysenes	256	
benzo(b)fluoranthene		252
benzo(k)fluoranthene		252
benzo(e)pyrene	252	
benzo(a)pyrene	252	
perylene	252	
indeno(1,2,3-cd)pyrene	276	
dibenzo(a,h)anthracene	278	
benzo(g,h,i)perylene		276
hopanes (191 family)*	191	
sterenes (217 family)*	217	

Sum of these compounds excluding those identified with a * is the TTAH value.

* Used primarily for source-fingerprinting and generally not quantified.

RESULTS AND DISCUSSION

LSU's IES received 180 samples from the June and July collection periods in 1994. A total of 58 sediment samples, 86 biological samples, 15 visible-oil features such as samples of asphalt pavement, 7 sheen samples, and 2 water samples were collected. In addition, 12 semipermeable membrane devices (SPMDs) were submitted to the laboratory, but not analyzed. Unfortunately, courier delays in transporting the samples from Alaska to Louisiana resulted in many of the samples being compromised by heat. Thirty-five tissue samples were received in "suspect" or degraded condition after being left unattended on a tarmac in 90°F plus temperatures for an extended period. The suspect samples that appeared to have the least tissue destruction were sorted and those were analyzed and reported as suspect. The sediment sample collection for the 1994 monitoring study emphasized the upper intertidal zone with very few mid and lower zones collected. Tables 2, 3, and 4, respectively, summarize the samples analyzed by location, habitat, and exposure classification. Most of the biological samples analyzed were collected in the highly/sheltered, sheltered exposure classification as documented by Hayes (1994). Thirty-five locations were sampled within Prince William Sound with mussels collected at 31 sites, clams at 7, and sediments at 11.

Each sample was analyzed for total petroleum hydrocarbons (TPH), detailed GC/MS, or both. The results are presented and discussed with respect to several classification schemes established by the geological and biological monitoring studies. The GC/MS results are summarized in Appendix A. The chemistry results were reviewed for characterization of the AH pollution. The characterization included determination of combustion byproducts or spilled oil AH, source fingerprinting to the T/V *Exxon Valdez* reference oil, the concentration or petroleum abundance, and chemical weathering trends. The total data set represents the compilation of both biological and geomorphological monitoring sites, the clam transplant study, selected clear-plot collections, and additional samples of interest. For discussion, all sample results are reported by sample type, i.e., clams, mussels, surface sediment, etc., with specific references to location.

Table 2. Summary of samples analyzed in 1994 survey by location and type.

Site	Type MS	CL	S	SS	QP	SH	MO
Bass Harbor	1	—	—	—	—	—	—
Bay of Isles	1	—	—	—	—	—	—
Bay of Isles, N-6	—	—	1	—	1	—	—
Block Island	5	5	—	3	—	—	—
Chenega	1	—	—	—	—	—	—
Crab Bay	2	—	—	—	—	—	—
Crafton	1	—	—	—	—	—	—
Crafton, N-11	—	—	1	1	—	1	—
Death Marsh (Bay of Isles)	2	—	—	—	—	—	—
Disk Island	1	—	—	—	—	—	—
Elrington West	—	2	—	—	—	—	—
Eshamy	1	—	—	—	—	—	—
Herring Bay, Rocky	2	—	—	—	—	—	—
Herring Bay, Soft	1	—	—	—	—	—	—
Herring Bay, N-10	1	—	—	1	—	—	—
Herring Bay, N-13	1	—	—	2	—	—	—
Ingot	1	—	—	—	—	—	—
Knight Island, N-7	1	—	—	5	—	—	—
Northeast LaTouche, N-15	1	—	—	1	—	—	—
Mussel Beach, South	1	1	—	—	—	—	—
Northwest Bay Rocky Islet	1	—	2	—	—	—	—
Northwest Bay West Arm	1	1	—	—	—	—	—
Outside Bay	1	2	—	—	—	—	—
Perry Island, N-17	1	—	—	1	—	—	1
Point Helen	—	—	—	3	—	—	—
Sheep Bay	1	1	—	—	—	—	—
Shelter Bay	1	1	—	—	—	—	—
Sleepy Bay	1	—	—	—	—	—	—
Sleepy Bay, PES Site	2	—	—	—	—	1	—
Smith Island, N-3	3	—	1	2	—	1	—
Smith Island, N-4	1	—	—	—	—	—	—
Snug Harbor, N-5	1	—	—	—	—	—	1
Snug Harbor, Rocky	1	—	—	—	—	—	—
Snug Harbor, Soft	1	—	—	—	—	—	—
Whittier Harbor	1	—	—	—	—	—	—
Total	**41**	**12**	**5**	**19**	**1**	**3**	**2**

Total number of samples analyzed was 83.

Key: MS = mussel, CL = clam, S = surface sediment, SS = subsurface sediment, AP = asphalt pavement, SH = sheen sample, MO = mousse

Table 3. Summary of samples analyzed in 1994 survey by type and habitat characterization.

Classification	Type MS	CL	S	SS	AP	SH	MO
L-1-B	—	—	—	—	—	—	—
L-1-M	—	3	—	—	—	—	—
L-1-R	—	—	—	—	—	—	—
L-1-U	—	—	—	—	—	—	—
L-2-B	—	—	—	—	—	—	—
L-2-M	—	5	—	1	—	—	—
L-2-R	—	—	—	—	—	—	—
L-2-U	—	—	—	—	—	—	—
L-3-B	—	—	—	—	—	—	—
L-3-M	—	3	—	—	—	—	—
L-3-R	—	—	—	—	—	—	—
L-3-U	—	—	—	—	—	—	—
M-1-B	—	—	—	—	—	—	—
M-1-M	4	—	—	—	—	—	—
M-1-R	2	—	—	—	—	—	—
M-1-U	—	—	—	—	—	—	—
M-2-B	1	—	—	—	—	—	—
M-2-M	9	1	—	1	—	—	—
M-2-R	8	—	—	—	—	—	—
M-2-U	—	—	—	—	—	—	—
M-3-B	5	—	—	1	—	1	—
M-3-M	4	—	—	—	—	—	—
M-3-R	3	—	1	—	—	1	—
M-3-U	3	—	—	1	—	—	1
U-1-B	—	—	—	—	—	—	—
U-1-M	—	—	—	—	—	—	—
U-1-R	—	—	—	—	—	—	—
U-1-U	—	—	—	—	—	—	—
U-2-B	—	—	—	—	—	—	—
U-2-M	—	—	1	1	—	1	—
U-2-R	—	—	—	2	—	—	1
U-2-U	—	—	1	1	1	—	—
U-3-B	—	—	—	5	—	—	—
U-3-M	—	—	—	—	—	—	—
U-3-R	—	—	2	—	—	—	—
U-3-U	—	—	—	6	—	—	—
Unclassified	2	—	—	—	—	—	—
Total	**41**	**12**	**5**	**19**	**1**	**3**	**2**

Total number of samples analyzed was 83.

Sample type Key: MS = mussel, CL = clam, S = surface sediment, SS = subsurface sediment, AP = asphalt pavement, SH = sheen sample, MO = mousse
Classification Key: L = low intertidal, M = mid intertidal, U = upper intertidal
Oil/treatment Key: 1 = unoiled, 2 = oiled and untreated, 3 = oiled and treated
Habitat Key: B = exposed boulder/cobble, M = protected mixed/soft, R = protected rocky, U = unclassified

Table 4. Summary of samples in 1994 survey by exposure index, treatment, and type.

Exposure Index:	Unclassified	Highly Sheltered/ Sheltered	Moderately Sheltered	Moderately Exposed	Exposed	Highly Exposed
Abbreviation		(HS/SH)	(MS)	(ME)	(EX)	(HE)
Sample Type and Treatment Classification:						
Asphalt Pavement/Mousse/Sheens						
1. Control	—	—	—	—	—	—
2. Oiled Untreated	3	3	—	1	1	—
3. Oiled Treated	—	—	—	—	1	—
Clams						
1. Control	3		—	—	—	—
2. Oiled Untreated	5	1	—	—	—	—
3. Oiled Treated	1	1	—	1	—	—
Mussels						
1. Control	6	—	—	—	—	—
2. Oiled Untreated	14	1	—	1	—	2
3. Oiled Treated	2	1	1	4	6	—
4. Unclassified	—	—	—	—	—	3
Surface Sediment						
1. Control	—	—	—	—	—	—
2. Oiled Untreated	2	—	—	—	—	—
3. Oiled Treated	2	—	—	—	1	—
Subsurface Sediment						
1. Control	—	—	—	—	—	—
2. Oiled Untreated	6	—	—	—	—	—
3. Oiled Treated	—	—	1	5	7	—
Totals	44	4	2	12	16	5

The sample results will initially be discussed from a broad overview of source characterization, or abundance of components sourced from petroleum compared to background combustion and environmental features. For samples with significant petroleum signature, source fingerprinting to NSC reference oil will be assessed followed by the AH distribution of petroleum. The weathering trends and spatial comparisons to collection locations will be addressed with residual oil bioavailability concluding the discussion. As a final note, a QA/QC will be discussed for all samples analyzed.

Source Characterization

AH are essentially ubiquitous in the marine environment and are derived from a variety of sources including by-products of burning wood and fossil fuels, creosote leachates, and oil pollution. As the concentrations of T/V *Exxon Valdez* oil residues are reduced through physical and biological removal processes, chronic background sources will represent a greater fraction of the total AH in sediments and living organism in Prince William Sound. The Fossil Fuel Pollution Index (FFPI) technique developed by Boehm and Farrington (1984) can help characterize the relative contribution between combustion-related AH and oil pollution. The technique was used in the 1993 Prince William Sound Monitoring Study, Summary of Chemistry Results, and is included to evaluate the 1994 data set. The FFPI was slightly modified from that referenced to incorporate an expanded list of target aromatic compounds. The modified FFPI (FFPI*) was calculated as follows:

Modified FFPI = (naphthalene + C-1 naphthalenes + C-2 naphthalenes + C-3 naphthalenes + C-4 naphthalenes + fluorene + C-1 fluorenes + C-2 fluorenes + C-3 fluorenes + dibenzothiophene + C-1 dibenzothiophenes + C-2 dibenzothiophenes + C-3 dibenzothiophenes + C-2 phenanthrenes + C-3 phenanthrenes + naphthobenzothiophene + C-1 naphthobenzothiophenes + C-2 naphthobenzothiophenes + C-3 naphthobenzothiophenes + C-2 pyrenes + C-2 chrysenes + (0.5 *(phenathrene + C-1 phenanthrenes + C-1 pyrenes + C-1 chrysenes)))/TTAH

This index provided a quick assessment of the relative influence of petroleum and combustion sources. Unweathered NSC oil analyzed during this study gave a FFPI* ranging between 0.940 and 0.957 (n=40), with an average value of 0.948. Weathered oils tend to have slightly lower FFPI* values, usually as high as 0.750, but could be as low as 0.500 as weathering continues. A high combustion derived AH has a FFPI* less than 0.250. Creosote oils, derived from coal tar and commonly used to preserve dock pilings

and telephone poles, also have low FFPI* values and are composed of a similar suite of AH as combustion by-products. The calculated FFPI* for each sample analyzed is incorporated into the GC/MS data summary (Appendix A). For graphical presentation, each sample FFPI* value was plotted against the TTAH value (Figure 1) to assess the relative contribution of petroleum pollution to the total quantified AH values. For all the samples analyzed in 1994, 60 out 84 samples (71%) showed evidence of a strong petroleum derived AH influence as defined by a FFPI* greater than 0.75.

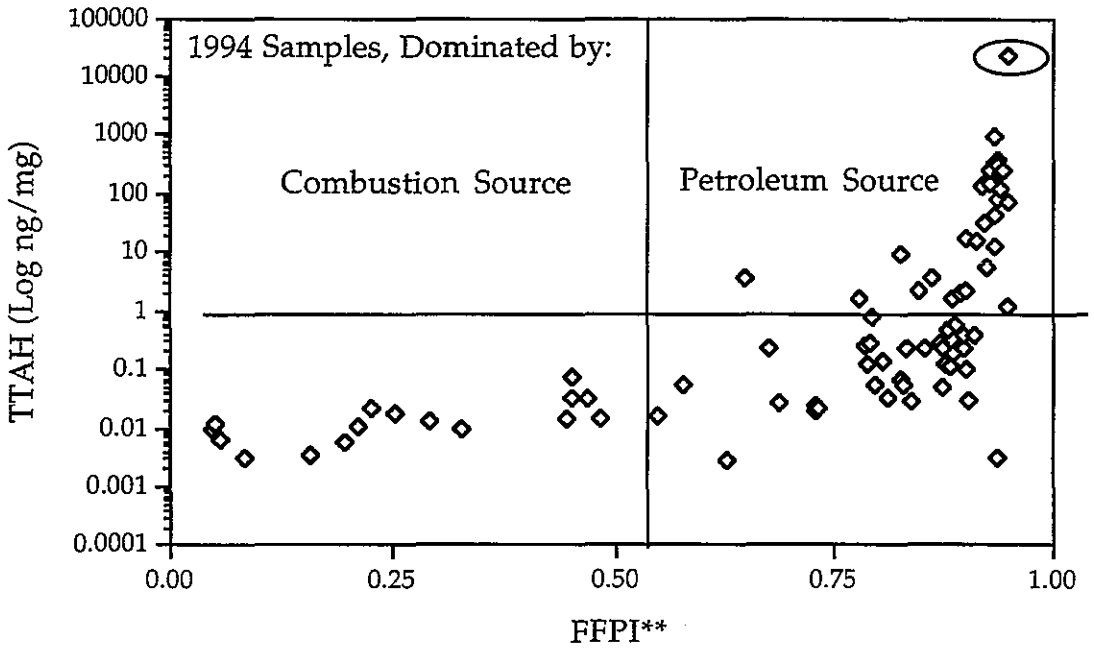

Figure 1. Semilog plot of the TTAH and the FFPI* for all 84 samples. The average NSC reference oil for the 1994 survey is circled. Samples with elevated AH concentrations, more than 1 ng/mg, are dominated by AH derived from petroleum sources rather than combustion sources.

Sediment samples

The sediment samples analyzed (including surface oil features such as mousse) are presented in Figure 2. All sediment samples showing AH pollution at concentrations above 1 ng/mg (ppm) were dominated by oil pollution (FFPI* greater than 0.75). None of the samples analyzed contained significant combustion influences. Note: Sediment samples were not collected from unoiled control sites in 1994.

Clams and Mussels

The 1994 tissue sample results were also plotted for fossil fuel pollution influence and concentration. Both clams and mussels, Figures 3 and 4 respectively, show lower petroleum concentration and influence from combustion by-products. (The control sites for clams and mussels are indicated on the graphs for comparison.) A spatial difference can be graphically noted from the combustion by-products influence to the control site tissues, with more influence detected for the mussel samples. Of the four mussel control sites, a petroleum contaminated site is noted. This sample was from Bass Harbor, previously documented as contaminated (observed in 1990). A comparison between the two tissue types is limited by the reduced number of clam samples collected and analyzed. However, a general trend for mussel and clam petroleum reduction can be observed from the sample clustering. Impacted biota sites can still be found and concentrations of these sites indicate little alteration of petroleum concentration from the 1993 sampling and analysis.

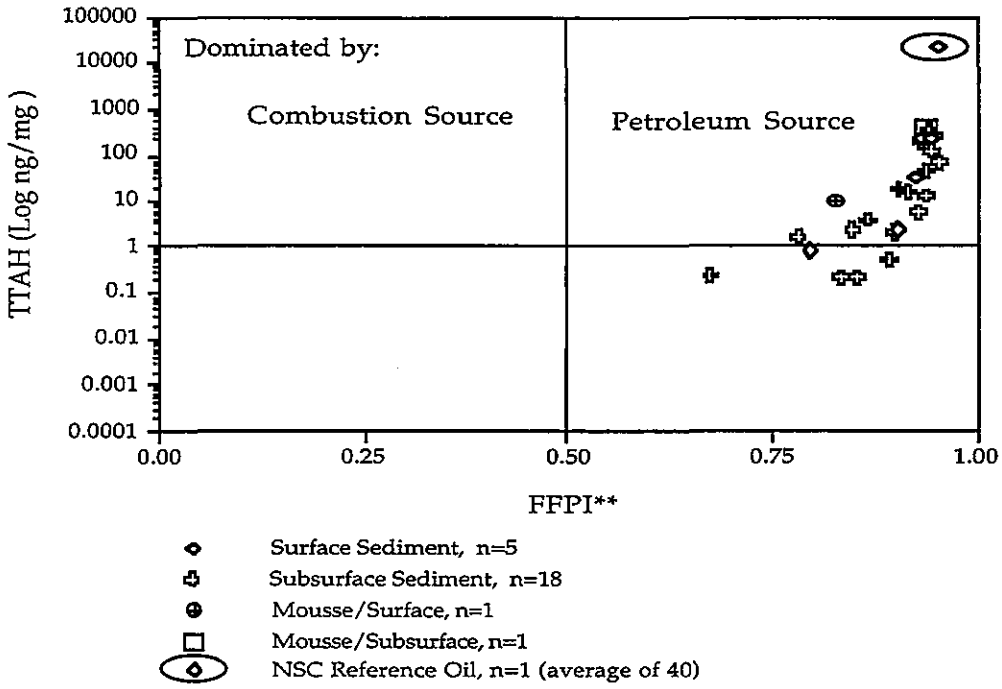

Figure 2. Semilog plot of the TTAH and the FFPI* for all sediment samples including surface, subsurface, and mousse samples collected and analyzed for the 1994 survey.

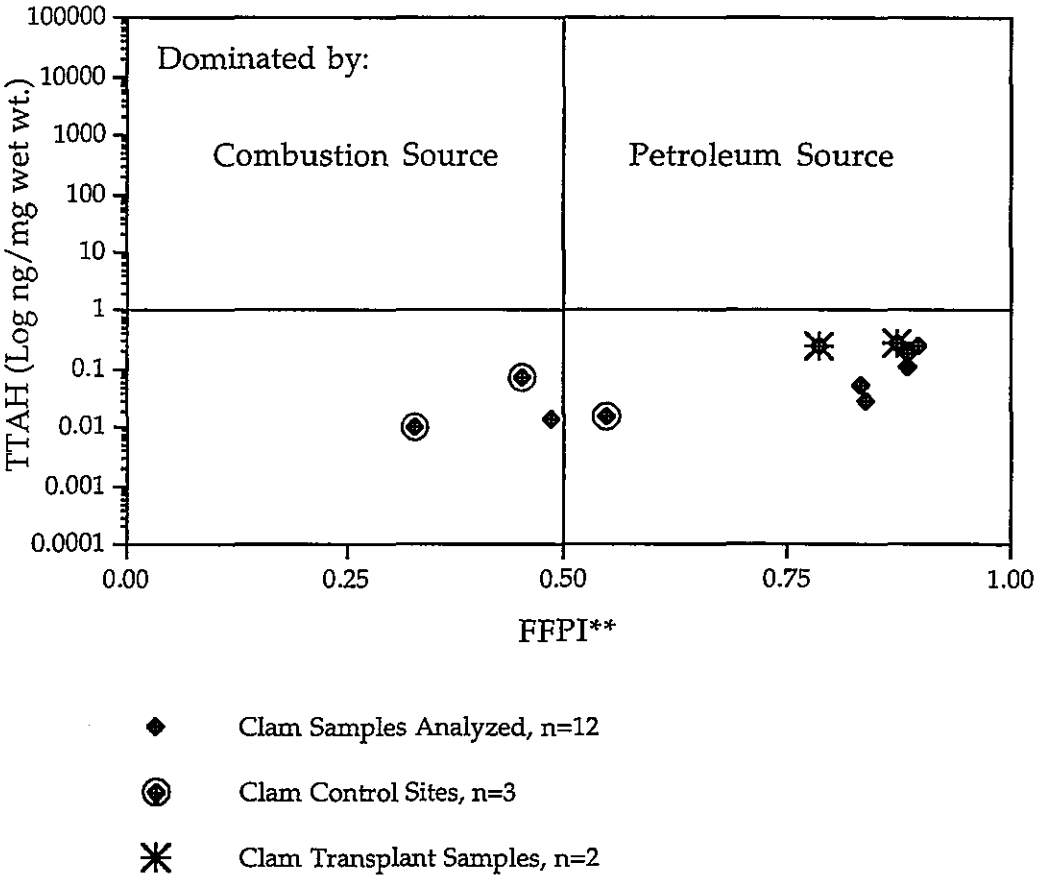

Figure 3. Semilog plot of the TTAH and the FFPI* for clam samples collected and analyzed for the 1994 survey. The transplant samples represent Block Island transplant stock. These samples are notably high due to an influence of light material and an abundance of C-3 phenanthrene due to sample degradation. The circled symbols are the clam samples collected from the control stations. Overall values are slightly elevated from 1993 sample collection. Total sample representation, n = 12.

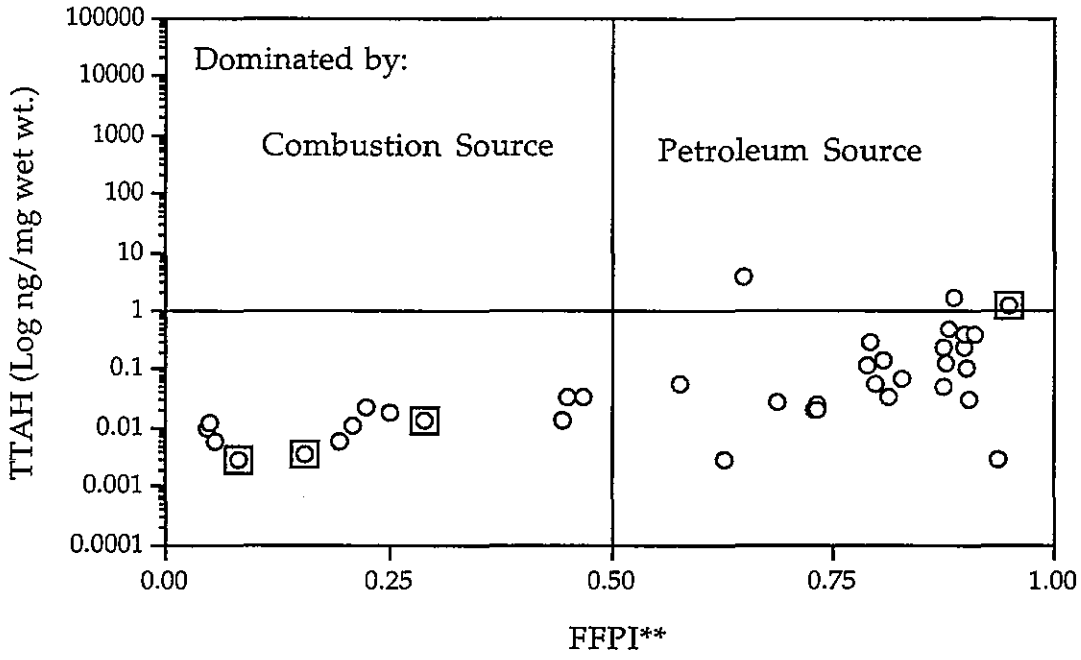

Figure 4. Semilog plot of the TTAH and the FFPI* for mussel samples collected and analyzed for the 1994 survey. Represented graphically are 38 of the 41 samples, 3 contained matrix interferences that excluded plotting. The circles surrounded by squares represent mussels collected from the control sites.

Source Fingerprinting

Source fingerprinting is the process of qualitatively and quantitatively comparing an environmental sample to a known reference oil. The objective is to determine if the unknown sample is derived from the source oil and a compositional match. The standard techniques used are manual comparison of the chromatographic profiles from the TTAH or use specific TTAH ratios plotted against the reference material. Ratios of compounds obtained from GC/MS analytical data have been documented in studies to indicate weathering trends (Boehm et al. 1981, Sauer et al. 1984) or positive identification of sources (Overton et al. 1981, Henry et al. 1993). The difference between the weathering trend monitoring compared to the source identification is the selection of compounds resistant to natural weathering processes. The selected compounds, or peaks, can be compared and plotted by a ratio technique referred to as Source Fingerprinting Index (SFI) plots. The defensibility of this approach for source fingerprinting, or double ratio plots, is directly related to the stability of the compounds used to derive the index. Through systematic use of numerous ratios for a variety of sources (Henry et al. 1993, Henry et al., 1995), certain discriminating components were found effective for

"matching" petroleum sources despite natural weathering processes. The SFI approach is an alternative method for source screening. For source confirmation, further chromatographic comparison is required.

The SFI plot for Prince William Sound samples is the combination of C-3 phenanthrene peaks a/b to the total C-3 dibenzothiophene/C-3 phenanthrene for all samples of significant concentrations. The individual peak ratio within the C-3 Phenanthrene group provides an internal comparison that removes any instrument variability and strengthens the preliminary fingerprinting assessment. The application limitation inherent in this procedure is found for low and trace concentrations of petroleum. Highly weathered samples and/or trace concentrations have considerable variance and possible interferences appearing as nonmatches in the SFI plot. Samples found below 1.0 ng/mg (1 ppm) for sediments and 0.1 ng/mg for tissue samples were considered too low to be included in the source fingerprinting. Low concentration reduces the petroleum signature in the analytical data, reducing source fingerprinting capabilities. Results from these samples did not maintain the same confidence level of source matching as samples with the complete petroleum signature and were examined individually. The following sections of this report separate samples between abiotic and biotic, and address the source fingerprinting or "match" quality. Each SFI plot includes a target range shown as a circled area indicating the 30 percent error margin allowed for instrumental variability. The 30 percent analytical variability limit is more stringent than a 95 percent confidence interval obtained statistically for environmental samples with a wide concentration range.

Abiotic Samples

The 30 abiotic samples analyzed included surface, subsurface, mousse, and asphalt pavement. Only 23 of the 30 samples were at significant concentrations (more than 1.0 ng/mg concentration) and without compositional loss for SFI plots. The four surface samples plotted by SFI for NSC reference oil comparison were a positive match (Figure 5). Close examination of the chromatographic profiles for all the targeted analytes confirms the SFI match for the surface samples. The 15 subsurface samples plotted by the SFI (Figure 6) show two samples outside the 30 percent margin. These two subsurface samples were collected from Knight Island and, after close examination of the chromatographic profiles, were positively matched to the NSC reference oil. The chromatographic profile comparison indicated significant weathering with selective degradation of the C-3 phenanthrene components to the C-3 dibenzothiophene. Both

samples were relatively low in concentration, less than 20 ppm. All 30 abiotic samples were chromatographically compared after assessment by SFI and determined to be positively matched to the NSC reference oil (Table 5).

Table 5. Source fingerprinting for abiotic samples from 1994.

Location	Type	Field Number*	Exposure Classification	Match Quality (±)
Bay of Isles	S	N06-02	highly sheltered/sheltered	+
	AP	N06-01	highly sheltered/sheltered	+
Block Island	SS	94072104	highly sheltered/sheltered	+
	SS	94072107	highly sheltered/sheltered	+
	SS	N09-01	highly sheltered/sheltered	+
Crafton Island	S	N11-02	highly sheltered/sheltered	+
	SS	N11-03	highly sheltered/sheltered	+
	SH	N11-04	highly sheltered/sheltered	+
Herring Bay	SS	N10-01	moderately exposed	+
	SS	N13-01	highly sheltered/sheltered	+
	SS	N13-02	highly sheltered/sheltered	+
Knight Island	SS	N07-01	exposed	+
	SS	N07-02	exposed	+
	SS	N07-03	exposed	+
	SS	N07-04	exposed	+
	SS	N07-05	exposed	+
LaTouche Island	SS	N15-01	highly exposed	+
Northwest Bay Rocky Inlet	S	94072111	highly sheltered/sheltered	+
	S	94072112	highly sheltered/sheltered	+
Perry Island	SS	N17-01	highly exposed	+
	MO	N17-X02	highly exposed	+
Point Helen	SS	N01-01	highly exposed	+
	SS	N01-02	highly exposed	+
	SS	N01-03	highly exposed	+
Sleepy Bay	SH	94072206	exposed	+
Smith Island	SS	N03-01	highly exposed	+
	SS	N03-02	highly exposed	+
	S	N03-X01	highly exposed	+
	SH	N03-X02	highly exposed	+
Snug Harbor	MO/S	N05-01	highly sheltered/sheltered	+

* Indicated as a geological sample (N0#-##) or a biological sample (940#####).
AP: asphalt pavement
MO: mousse
S: sediment
SH: s sheen
SS: subsurface sediment

The positive matching of all samples analyzed is reflective of the sample collection from sites known to be impacted by the T/V *Exxon Valdez*. The nature of these samples and the sampling strategy taken do not reflect the true state of Prince William Sound

and is considered a qualitative approach. As documented by Kvenvolden et al. (1993) and Henry et al., (1993), other sources of petroleum can be found, but this survey represents the abundance of the T/V *Exxon Valdez* oil as a subsurface source at selected sites.

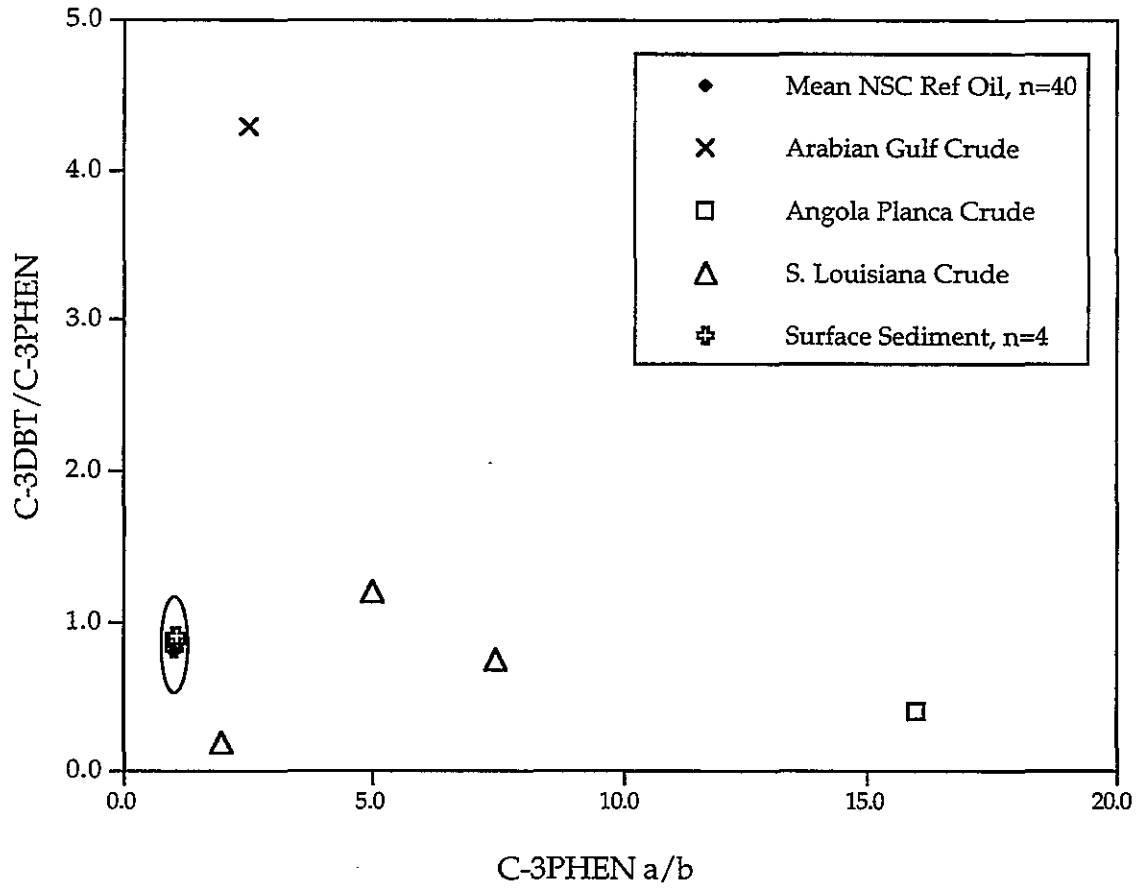

Figure 5. SFI plot of selected crude oils and surface sediments collected during the 1994 Prince William Sound survey. The circle indicates the target range of SFI values for NSC at a 30 percent margin of error. Note all four surface sediments fell within the target range.

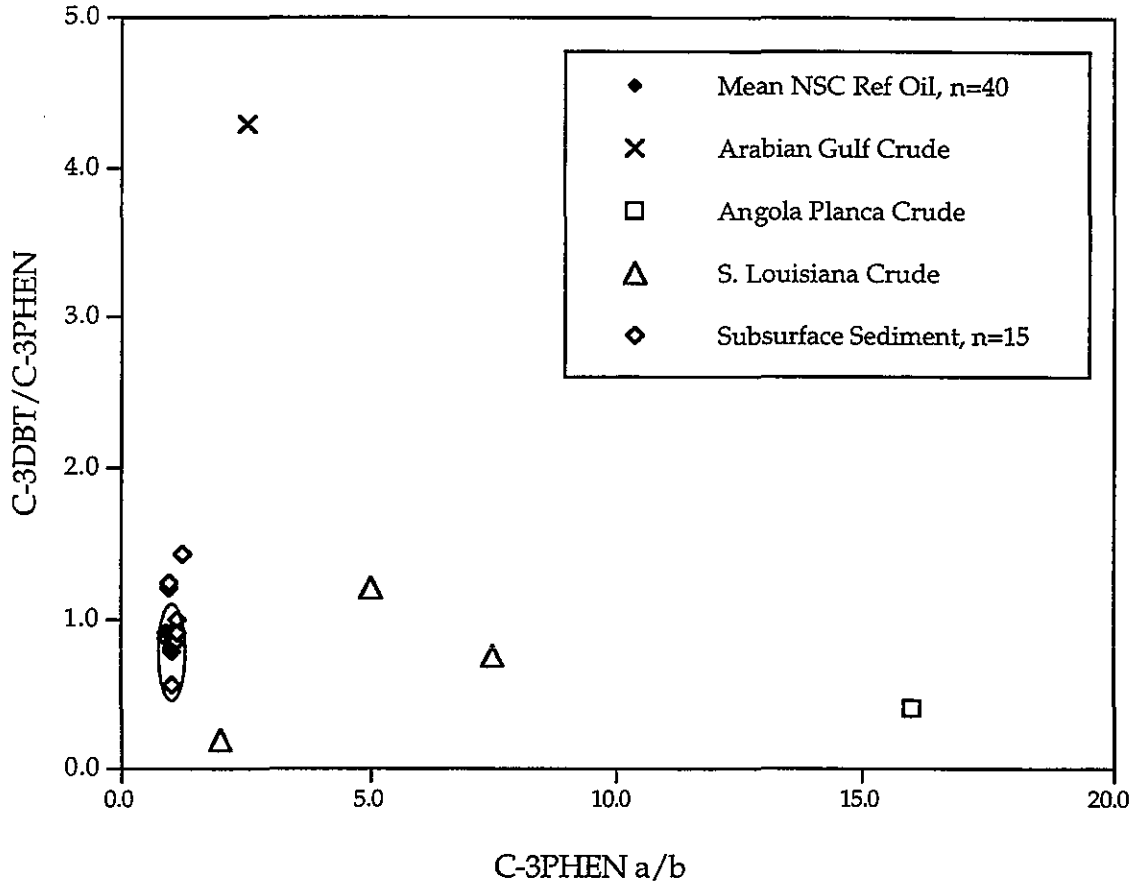

Figure 6. SFI plot of selected crude oils and subsurface sediments collected during the 1994 Prince William Sound survey. The circle indicates the 30 percent target range of SFI values for NSC.

Biota Samples

Three clam samples with AH body-burden concentrations more than 0.1 ng/mg TTAH were collected from Block Island and positively matched to the NSC reference oil. Figure 7 is the SFI plot of these tissues in contrast to other designated oil sources. All three samples are a positive match to NSC reference oil, yet fall beyond the perimeter of the fingerprinting target. In contrast to the subsurface sediment from Knight Island, the clam tissue appears to reduce the C-3 dibenzothiophenes preferentially to the C-3 phenanthrenes and the C-3 Phenanthrene "a" peak over the "b" peak. All three samples contain low concentrations of the TAH. A possible explanation for the SFI plotting difference could be from clam metabolic processes or selective symbiotic relationship with hydrocarbon degrading bacteria within the animal.

Mussel samples plotted by SFI in Figure 8 indicate 4 of the 13 monitoring sites analyzed are questionable matches. By detailed comparison of the chromatographic profiles, three of the four mussel samples contain other or mixed sources of oil. The four samples were collected from Bass Harbor, Death Marsh, Block Island, and Smith Island. The control sample collected from Bass Harbor contained a relatively high concentration of petroleum, but was a nonmatch to the NSC reference oil. Two samples contain mixed sources, possibly diesel. The sample from Smith Island, west rock (Field Number 94072403) was the fourth sample that fell just below the circle perimeter. The oil has been extremely altered and has a TTAH concentration of 0.13 ng/mg, but does not appear as a mixed source. All biotic samples analyzed and fingerprinted to the NSC reference oil by chromatographic comparison are listed in Table 6.

Other potential sources to the bivalve population were addressed by analyzing mussels collected from docks in Prince William Sound. Samples were collected from Chenega and Whittier docks and compared to the Bass Harbor sample. The influencing source from Chenega appears to be a light fuel oil or diesel while the Whittier sample is influenced by a mixture of diesel and a heavier fuel oil. Figure 9 is a histogram profile, or comparison by abundance, of all the TAH, detected for the three dock samples. The profile is another tool used to identify sources since the abundance of various TAH is unique for various classes and sources of petroleum. A profile difference in compound abundance is apparent between the NSC reference oil and the dock samples. Weathering also results in alterations in the AH profile and will be discussed later.

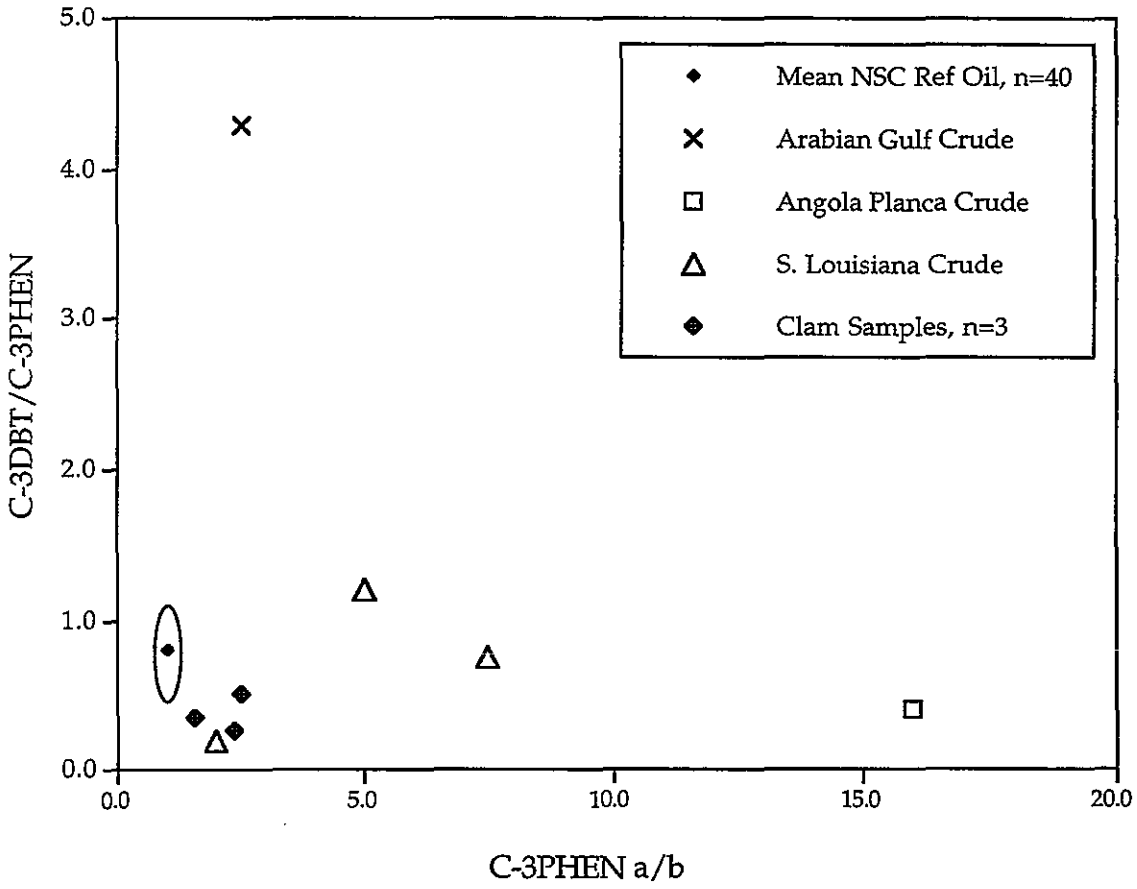

Figure 7. **SFI plot of selected crude oils and clams at significant concentrations collected during the 1994 Prince William Sound survey. All samples were beyond the 30 percent target range of SFI values for NSC, but are positively matched to NSC.**

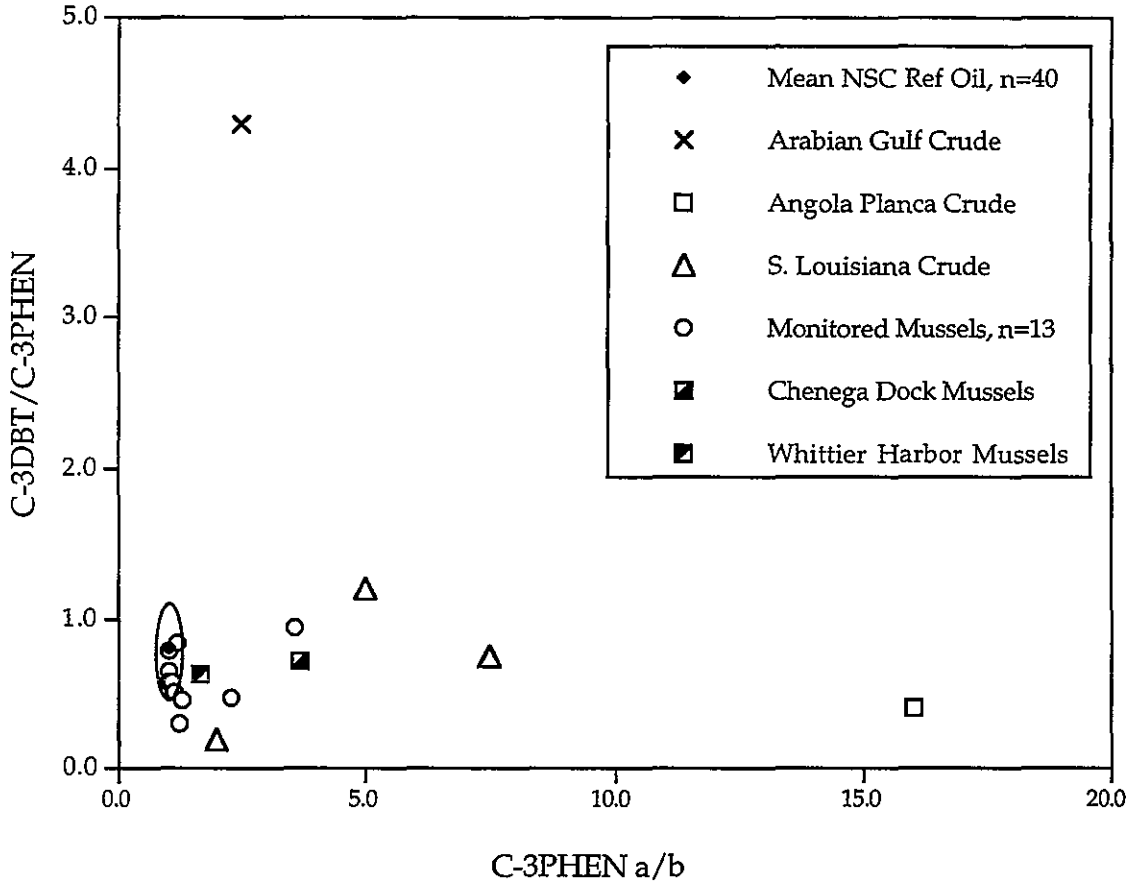

Figure 8. **SFI plot of selected crude oils and mussels collected during the 1994 Prince William Sound survey; four samples are beyond the 30 percent SFI target range. The three farthest away are from another source or a mixture. The sample just below the perimeter is a positive match to NSC.**

Table 6. Source fingerprinting for biotic samples from 1994.

Location	Type	Field Number*	Exposure Classification	Match Quality (±)
Bass Harbor	M	94062902	highly sheltered/sheltered	-
Block Island	C	94072106	highly sheltered/sheltered	+
	C	Clear 1-1	highly sheltered/sheltered	+
	C	Clear 1-2	highly sheltered/sheltered	+
Block Island	M	Clear 3-2	highly sheltered/sheltered	+
	M	94072102	highly sheltered/sheltered	+
	M	94072105	highly sheltered/sheltered	+
	M	94062018	highly sheltered/sheltered	mixed source
Chenega Dock	M	94072208	unclassified	-
Death Marsh	M	94072304	highly sheltered/sheltered	mixed source
Disk Island	M	94072117	unclassified	+
Ingot Island	M	04072118	exposed	+
Sleepy Bay/PES site	M	94072205	exposed	+
Smith Island	M	94072403	highly exposed	+
Whittier Harbor	M	94072001	unclassified	-

* Indicated as a biological sample (940#####) or an additional sample.
C: Clam Samples
M: Mussel Samples

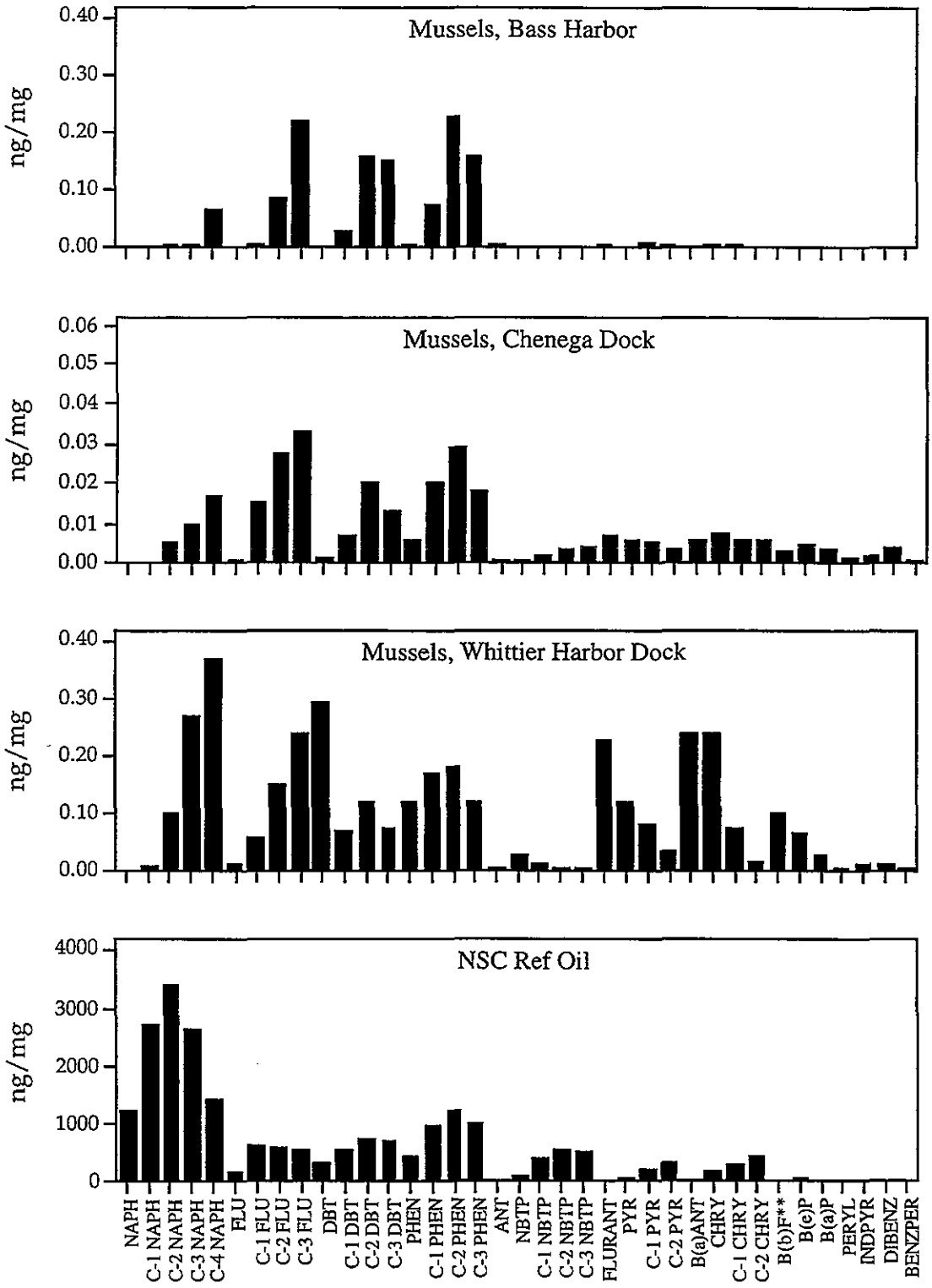

Figure 9. AH histogram profiles of mussels not impacted by *Exxon Valdez* oil, but impacted by other sources.

AH Abundance and Distribution

As previously stated, TTAH is the sum of the individual AH compounds quantified by GC/MS. Although, the target compounds represent less than 5 percent of most oils, these compounds are of great interest since they represent specific compounds that are linked with long-term oil persistence and toxicity. Many of the TAH compounds are classified as either known or possible mammalian carcinogens (Kauss and Handy 1991). The abundance and distribution of AH detected in the 1994 sample population is reported and discussed by sample type, location, and treatment. Tables 7 and 8, respectively, provide a summary of the TTAH results. The mean values presented in these tables are calculated based on all samples having an equal weight; therefore, a sample bias exists in favor of a few sites that were oiled and heavily sampled. The same data set is presented in Figures 10, 11, and 12, where the results for each site are represented as a histogram plot on a log scale. In addition Figures 13, 14, and 15 compare TTAH concentration to habitat type for the samples collected. For each sample type, the TTAH distribution observed in the 1994 data set is discussed concerning all samples analyzed, site-specific concentrations, and habitat type. Clearly, the data set and observation derived from the data set are limited by the scope and purpose of the samples collected. Few of the sediment samples were collected adjacent to or at the same beach elevation or habitat classification as the biota samples; as a result, direct comparison between sample types is limited.

Table 7. TTAH sample results by location for tissues and sediments.

Class/Parameter	n*	Average	Low/Location (ng/mg)	High/Location (ng/mg)
Clams				
all clam samples	12	0.12	0.010/Outside, MS	0.34/Block Island
without Block Island	7	0.030	0.010/Outside, MS	0.076/Outside, Soft
Block Island only	5	0.24	0.11/Clear Plot 1-1	.34/Transplants
Mussels				
all mussels	41	0.24	0.0026/Sheep Bay	1.7/Death Marsh
Bio Sites[1]	18	0.027	0.0026/Sheep Bay	0.14/Ingot Island
Block Island only	5	0.20	0.0030/Rocky	0.40/Clear Plot 3-2
Smith Island only	2	0.080	0.030/East Rock	0.13/West Rock
RPI Transects	8	0.037	0.012/Snug Harbor	0.056/LaTouche
PES treatment site	1	0.40		
Sediment				
all surface samples	5	100	0.82/Northwest Bay Islet Composite	240/Northwest Bay Islet Mearns' Spot
all subsurface	19	73	0.22/Block Island	360/Point Helen

* Number of samples averaged.

1 All standard biological sites collected, except Smith and Block islands.

Table 8. TTAH sample results by treatment for tissues and sediments.

Class/Parameter	n*	Average	Low/Location (ng/mg)	High/Location (ng/mg)
Clams				
all clam samples	12	0.12	0.010/Outside, MS	0.34/Block Island
Treatment 1	3	0.034	0.010/Outside, MS	0.076/Outside, Soft
Treatment 2	6	0.21	0.053/Mussel Beach	0.34/Block Island
Treatment 3	3	0.018	0.010/Elrington West	0.030/Northwest Bay West Arm
Mussels				
all mussels	41	0.24	0.0026/Sheep Bay	1.7/Death Marsh
Treatment 1[1]	5	0.0068	0.0026/Sheep Bay	0.013/Crab Bay
Treatment 2[2]	16	0.086	0.0029/Herring MS	0.40/Block Island Clear Plot
Treatment 3[3]	15	0.046	0.010/NW Bay West Arm	0.13/Smith Island
Sediment				
all surface samples	5	100	0.82/Northwest Bay Islet Composite	240/NW Bay Islet Mearns' Spot
all subsurface	19	73	0.22/Block Island	360/Point Helen
Treatment 2	6	40	0.22/Block Island	69/Block Island Clear Plot[4]
Treatment 3	13	88	0.22/LaTouche Island	360/Point Helen

* Number of samples averaged.

1 Eliminated Bass Harbor as a known contaminated not from *Exxon Valdez*

2 Eliminated the 2 Death Marsh special collections

3 Eliminated PES special collection

4 This clear plot is the only lower intertidal subsurface sample collected.

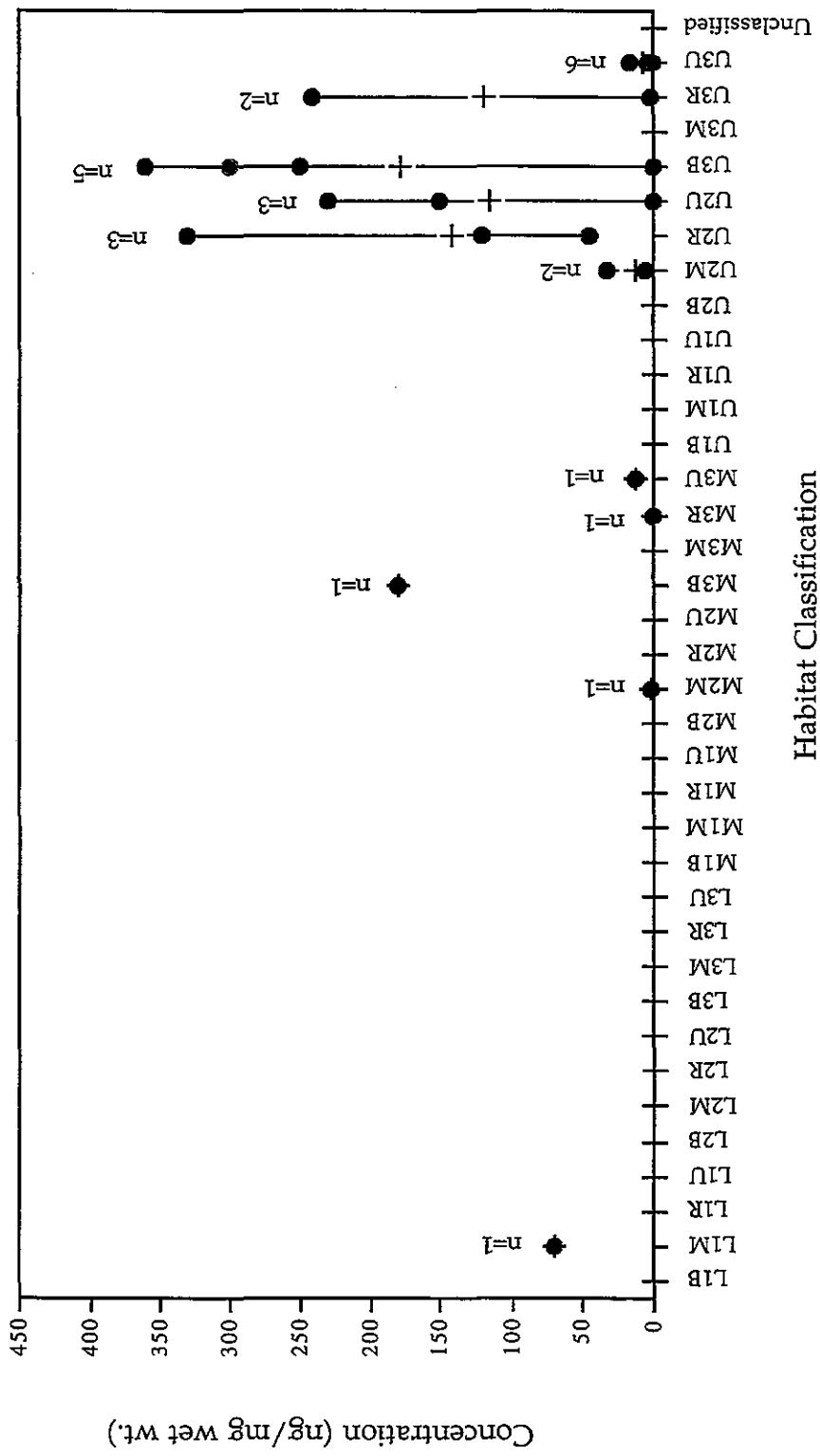

Figure 10. Range of concentration of TTAH detected in surface, subsurface, and mousse samples with respect to habitat/treatment classification. Many classifications are blank indicating no samples collected. The cross hatches and bars indicate the average value and range, the dots represent the individual samples analyzed.

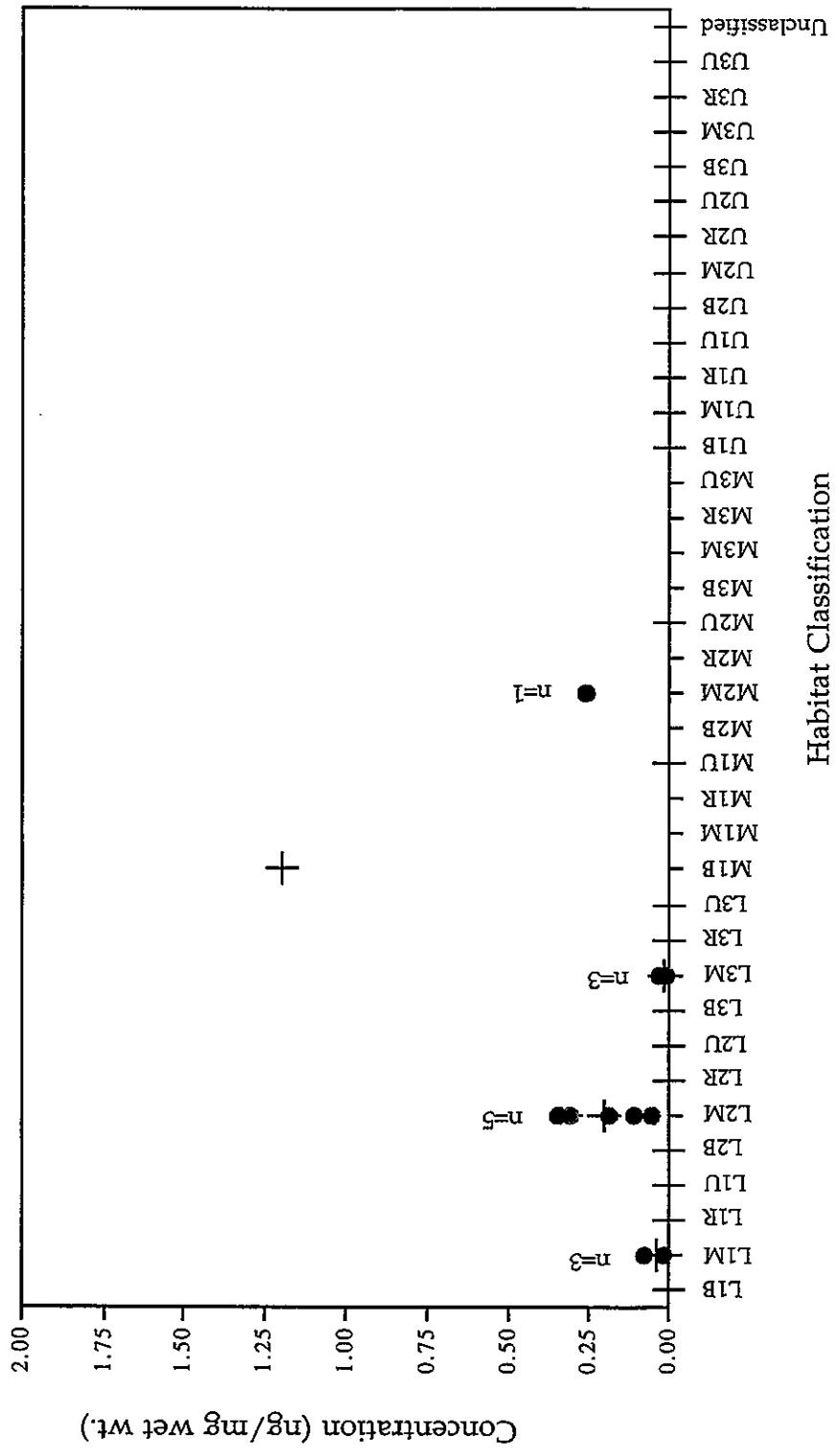

Figure 11. Habitat classification for clam samples analyzed.

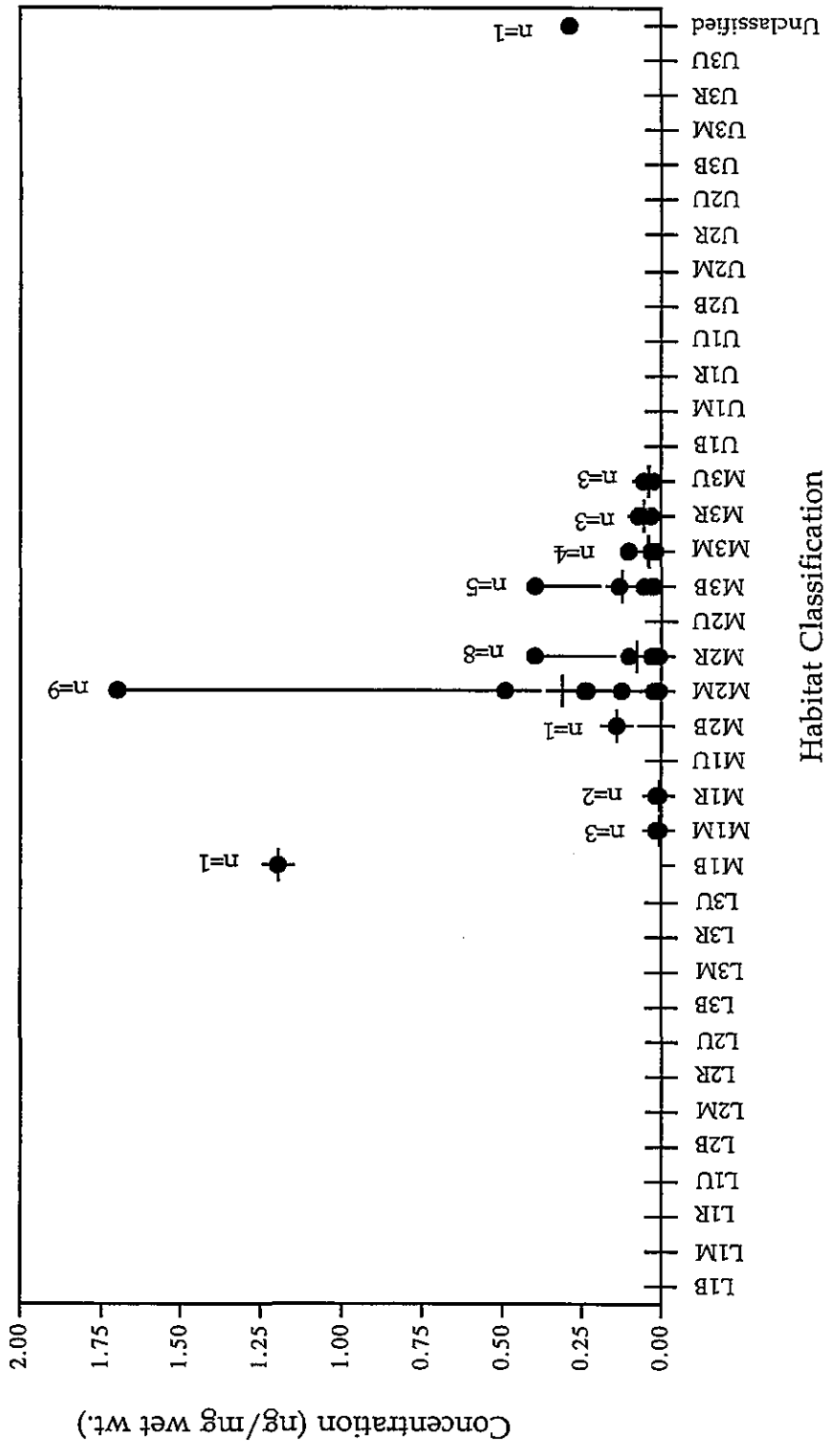

Figure 12. Habitat classification for mussel samples analyzed.

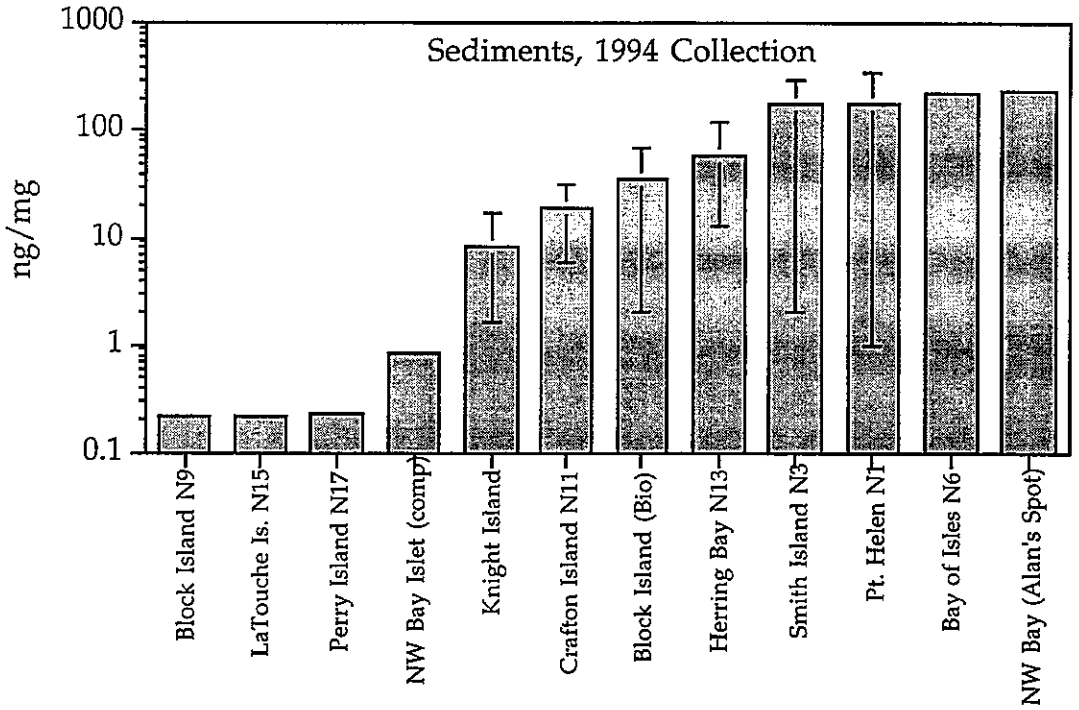

Figure 13. Histogram comparison of the TTAH detected in clam collected in 1994 by site.

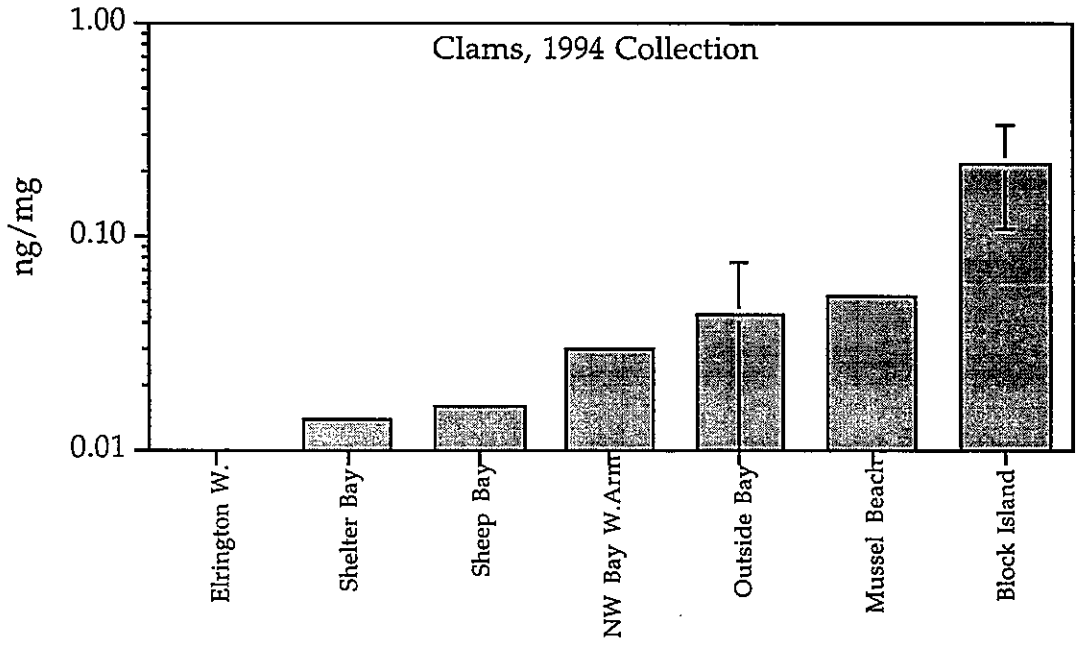

Figure 14. Histogram comparison of the TTAH detected in clam collected in 1994 by site.

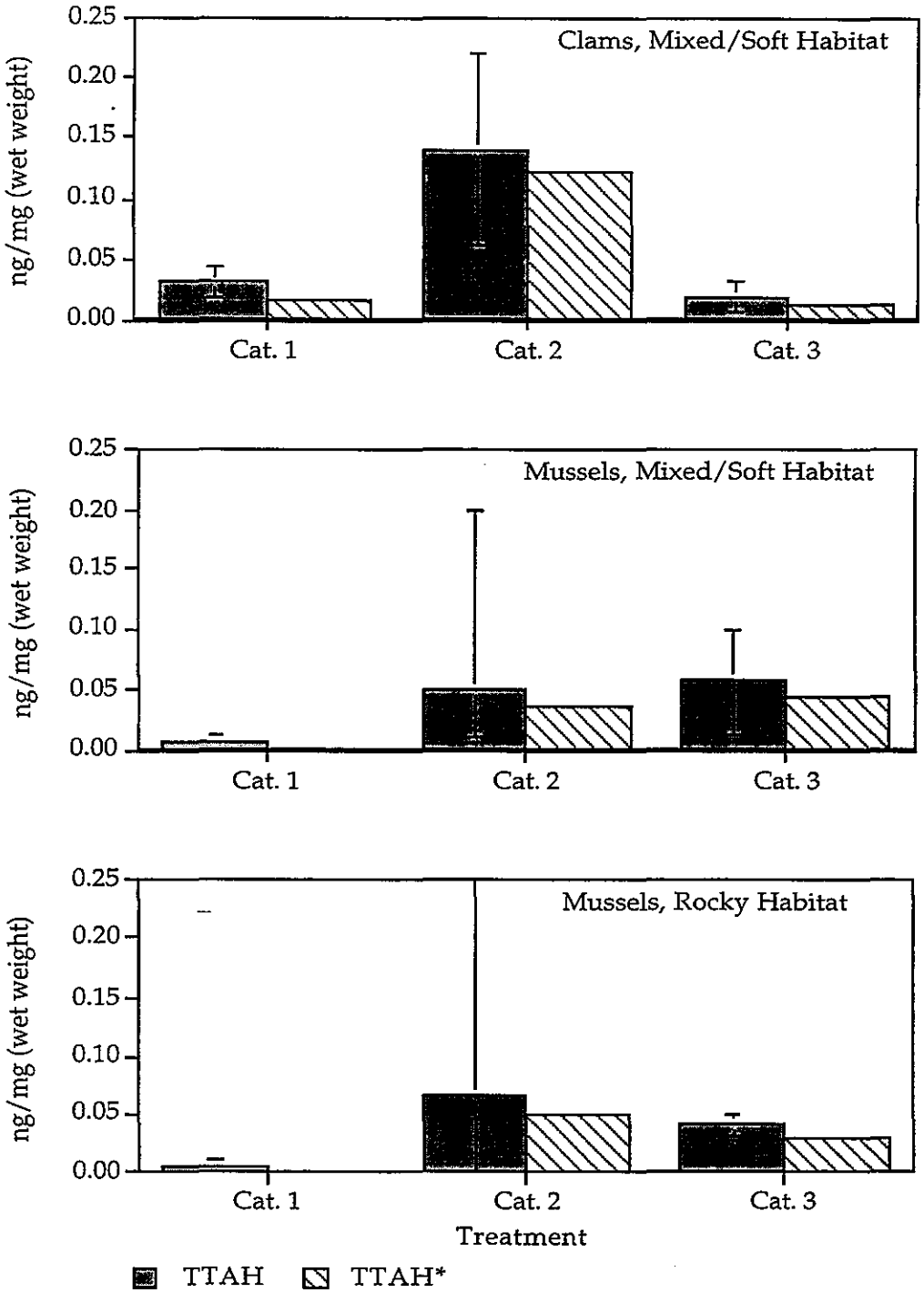

Figure 15. Comparison of the TTAH and TTAH* (FFPI* corrected) for clams and mussels for treatment categories 1, 2, and 3 (unoiled, oiled untreated, oiled treated).

Sediments

Only five surface-sediment samples were collected in the 1994 survey. The highest concentration detected was at Northwest Bay Rocky Islet ("Mearns' spot") at 240 ng/mg TTAH closely followed by a surface gravel sample collected at Bay of Isles, Trench B (230 ng/mg, the quantitative results are essentially the same). Both samples contained visible oil. The lowest concentration of TTAH detected was 0.82 ng/mg, also at Northwest Bay Rocky Islet. The latter sample is a composite of three locations along the mid-intertidal biological transect at Northwest Bay Rocky Islet; the results suggest that low to moderate concentrations of residual oil contamination remain. The sample identified as "Mearns' spot" represents an isolated "super hot spot" along the middle intertidal zone at Northwest Bay Islet. This particular spot is highly oiled and highly sheltered by a large rock.

A total of 19 subsurface sediment samples were collected and analyzed in 1994. The samples were primarily collected in the upper intertidal zone in support of the geomorphology research. The collected subsurface samples emphasize two extremes relative to the beach exposure index (Michel and Hayes 1995). Of the 19 samples, 12 are classified as exposed to highly exposed beaches, and 6 were classified at highly sheltered/sheltered beaches. The concentration range was between a high of 360 ng/mg TTAH to a low of 0.22 ng/mg. The high value was detected at Point Helen (N1) at a depth of 66 cm. Point Helen is classified as a highly exposed, upper intertidal boulder/cobble beach with a platform berm. The subsurface oiled sediment, collected at 66 cm is protected from the normal beach reworking by storms and therefore is not truly "exposed." The low 0.22 ng/mg value was detected at two sites: LaTouche Island (N15) at a depth of 35 to 41 cm and Block Island (N9) at a depth of 2 to 10 cm.

Clams. Only 12 clams were analyzed in 1994. All but one clam collection was taken from the lower intertidal, mixed-soft habitat classification and distributed between different treatment types (Houghton et al. 1992). The remaining sample was collected on the tidal flat of Block Island and is more closely associated with the middle intertidal zone. The quantitative TTAH results ranged between 0.010 ng/mg (wet weight) at Outside Bay (soft site) to 0.34 ng/mg at Block Island. Block Island, as might be expected, still has elevated levels of TTAH in resident biota compared to control locations.

Mussels. A total of 41 mussel samples were analyzed in 1994; 25 were collected at the biological monitoring sites and 16 were collected to address special interest. The questions addressed for special interest include bioavailability of chronically oiled

surface and subsurface sites and location-specific treatments. The mussel collections were at selected geomorphology monitoring transects such as Snug Harbor, Herring Bay, LaTouche Island, and Perry Island, the PES-51 test site at Sleepy Bay, the Disk Island cleaning site, and the "Death Marsh" site at Bay of Isles. The average concentration for all mussels collected was 0.24 ng/mg TTAH. The range of

Visible oil features

Only one asphalt pavement, two mousse samples, and three sheen samples were analyzed in 1994. The quantified values range from a high of 330 ng/mg TTAH for a mousse collected Snug Harbor (N15) to a low of 9.5 ng/mg for mousse found at Perry Island (N17).

As measured by TTAH, AH pollution still exists within Prince William Sound. The highest concentration of TTAH is associated with sediments relative to the biota samples collected. The sediments appear to be acting as a reserve for oil storage and the source of shellfish tainting. For any given location, mussel body-burden of TTAH was greater than clam. As a function of treatment, clams at Category 2 sites contained significantly higher levels of TTAH body burden than Category 3 sites. No clear difference was observed in the mussel data.

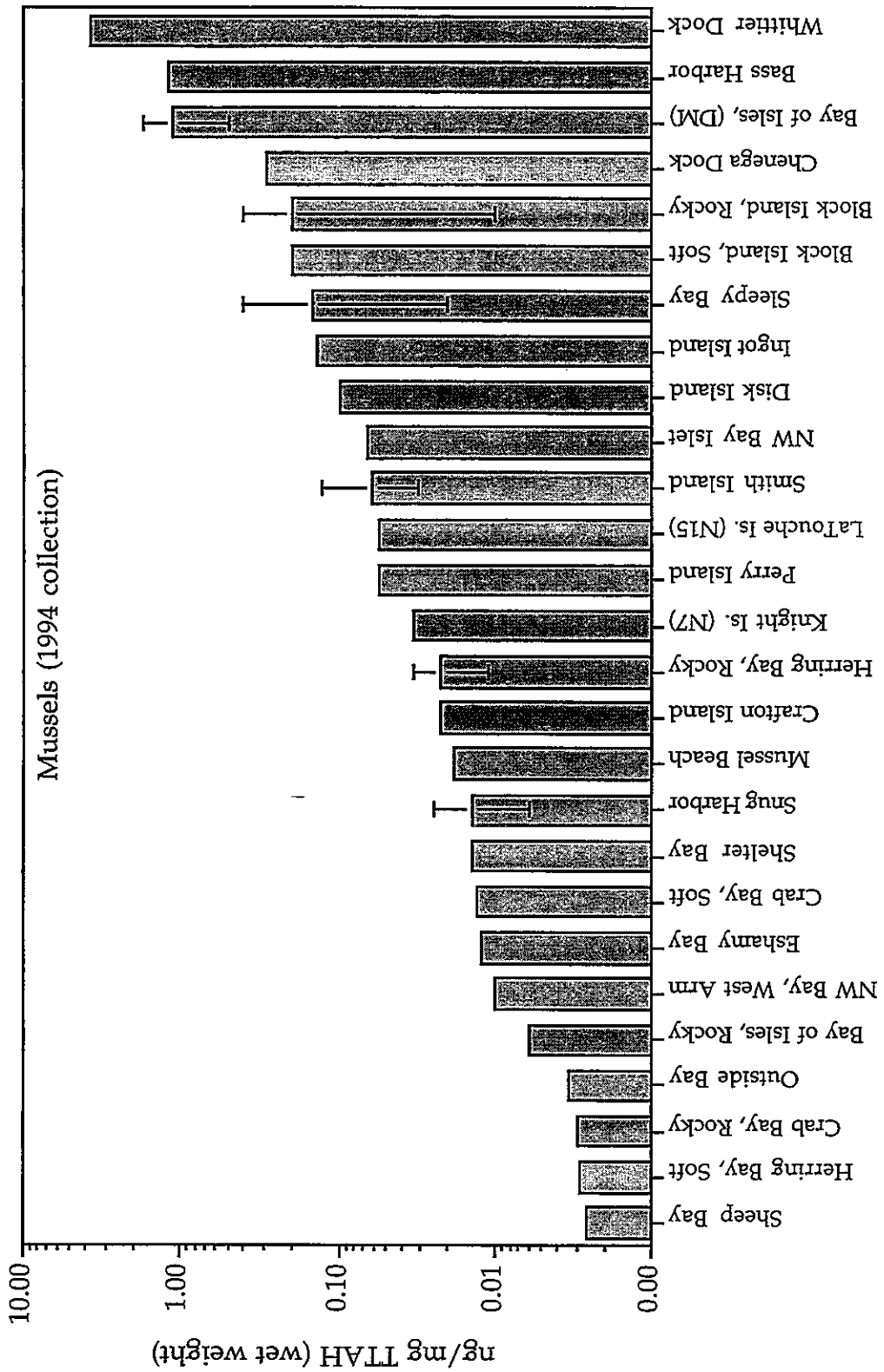

Figure 16. Comparison of the TTAH body burden values at study sites in PWS. All mussle samples collected and analyzed are included. For composite samples, the mean is represented by the bar with the error bars included.

Oil Weathering Trends

Weathering refers to alterations occurring to bulk oil by evaporation, photolytic, and biological degradation. The extent of photolytic and microbial alterations, primary sources of alterations, is directly correlated with the oil thickness, surface exposure, and physical movement on the shore. Oil weathering trends documented by chromatographic profiles of components can provide insight to the physical and biological alterations for the oil under various environmental conditions. The weathering trends documented for this report are based primarily on the alterations of the TAH, selected normal alkanes and isoprenoid components for the surface and subsurface sediment samples analyzed. The 1994 collection strategy provides documentation of the upper intertidal oiled sites, but little correlation between treatment strategies or lower-beach profile documentation. Therefore general trends are documented only by petroleum weathering trends observed for the treated areas.

The common degradation trends observed for the Prince William Sound monitoring stations are:

- Oiled surface sediments in the upper intertidal zones are highly weathered.
- Oiled middle intertidal sediments are less weathered.
- Lower intertidal sediments contain trace oil concentrations.

The degradation pattern appears to be altered by the sediment size and beach exposure, such as the shorelines classified as highly exposed boulder cobble beaches, which support subsurface oil penetration. These heavily oiled subsurface samples were considered slightly to moderately weathered; one exception noted was the subsurface samples collected from Knight Island. Very few lower intertidal zones currently monitored contain oil, but a few exceptions exist for this littoral zone also such as Block Island. These anomalies could be initially due to shoreline treatment procedures, but long-term oil persistence indicates other factors continue to influence and prevent oil degradation such as reduced physical energy and microbial community present. We commonly refer to this combination of factors creating an alteration in the current degradation trends and occurring in a localized area as "microenvironments."

Within each basic classification of shoreline there are various microhabitats or "microenvironments" that could alter the expected weathering pattern. Surface sediment samples are exposed to much more rigorous mechanical and photo oxidizing

weathering than oil that has penetrated the subsurface. Mousse samples located underneath rocks in wave shadows have been protected compared to oiled surface sediments. These microenvironments must be considered when evaluating weathering trends on broadly categorized beaches. Pocket accumulations of petroleum within the intertidal zones at selected microenvironments or "sites of reduced energy exposure" can significantly alter the weathering processes. For the 1994 analysis, abiotic samples were considered independent relating only to specific site characteristics with the beach profile.

Petroleum weathering classification has been described by various researchers for documentation of oil degradation in the environment. Early classifications were based primarily on alkanes alone (Boehm et al. 1981). More recently PAH classification schemes have been published (Sauer et al. 1993). Fusey and Oudot (1984) address bulk-oil degradation with respect to time, also creating classifications, but indicate that it is oil and environment dependent. Weathering classifications should be driven by the oil type and provide insights to the limiting factors where stranded. Microenvironments alter the weathering patterns and key influences such as dilution or microbial degradation are lost without a detailed classification scheme. No criteria have been developed that can provide an effective weathering classification, therefore, this report will contain only three simple descriptors to identify the oil's TTAH weathering characteristics:

- Slightly weathered. No major change occurs in the relative order or abundance of aromatic homologues. The alkylated naphthalenes are the most abundant constituents, but may be slightly reduced. Alkanes generally are still present.

- Moderately weathered. The total naphthalenes are significantly depleted from the bulk oil and the total alkylated dibenzothiophenes and phenanthrenes dominate the histogram plot. The alkane fraction is highly degraded.

- Heavily weathered. The dibenzothiophenes and phenanthrenes are significantly depleted from the bulk oil and the dominate constituents are the alkylated napthobenzothiophenes, pyrenes, and chrysenes.

These descriptions provide basic chemical information related to compositional changes with respect to weathering.

Histogram Profile Description

Histogram profiles represent the TAH in a depiction that can be easily compared between samples. As seen in Figure 17, analytes are presented in order of the parent compound molecular weight, followed by the alkylated components. Lighter constituents to the left of the profile, such as naphthalene, are the first groups to be degraded or removed. For contrast the NSC reference oil will be found at the bottom of each figure. In comparison to other Prince William Sound chemistry reports, the profiles represent the sample's analyzed concentration on the Y axis. The analyte abundance comparison is presented by normalization of the Y axis scale to the recalcitrant C-2 chrysene to the concentration of NSC reference oil; therefore, component concentration can easily be obtained by the profile. The sample profiles are placed on the page to represent the general beach profile; the top profile in each figure represents the sample collected farthest up the beach face. Descriptions are found on each profile indicating surface, subsurface, location, and depth of collection. The terminology "Tr" represents samples collected at various trenches at geomorphological sites. The remaining samples represent sediments collected for biological comparison. Sheen samples are also included in the profiles but represent estimated concentration values only.

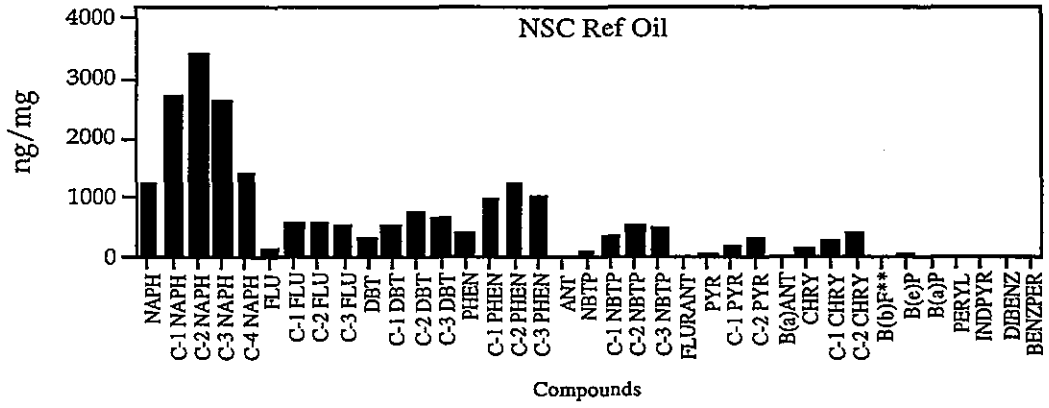

Figure 17. Histogram profile of the *Exxon Valdez* cargo oil.

Sample Locations

Five surface sediments were taken at four monitoring locations and nineteen subsurface sediments were collected from eight monitoring locations. For direct comparison of surface to subsurface samples, data was available for only two sites,

Crafton and Smith islands. Only four sites contain more than three samples for comparison of environmental patchiness: Block Island, Point Helen, Knight Island, and Smith Island. Each will be discussed in detail and histogram plots presented. The remaining sites will be described by concentration and generalized trends.

Block Island

The histogram comparison of three subsurface samples collected on Block Island are compared to the NSC reference oil in Figure 18. These samples were collected from the upper, trench B 2 to 10 cm; middle, clear plot 4; and lower, clear plot 3 intertidal zones. The profiles are normalized to C-2 Chrysene, and distinctly show weathering trends. The upper intertidal subsurface sample was heavily oiled, with the naphthobenzothiophene constituents the most abundant (standard weathering trend). Clear plot 4, representing the middle intertidal zone, shows a pattern moderately weathered. The clear plot 3 profile has the highest abundance of AH for the three samples collected. This moderately weathered sample represents an anomaly in the general weathering trend by a high PAH concentration and appears to be influenced from dissolution, by the significant loss of the less alkylated components throughout the sample. For both clear plots, the depth to surface was approximately 12 inches. This highly sheltered/sheltered beach resists weathering and petroleum removal of the lower intertidal zone.

Point Helen

Subsurface samples collected at N1 a highly exposed site are compared by histogram profiles in Figure 19. All geomorphological sample profiles indicate that petroleum degradation is significant between the 30- to 50-cm depth of the upper intertidal. Oil in this zone was heavily weathered, but 16 cm below this sample collection is a heavily oiled sediment reservoir only slightly to moderately weathered. A significant abundance of napthalenes are still present in this sample as well as the sample farther downshore at a similar depth. The treatment for this site consisted of a berm relocation site in 1990, altering the depth of oil penetration. Despite the treatment, slightly to moderately weathered oil still exists. The profiles for trench B at 66 cm and trench C at 60 to 65 cm is similar, indicating little to no weathering alterations down profile of the upper intertidal zone.

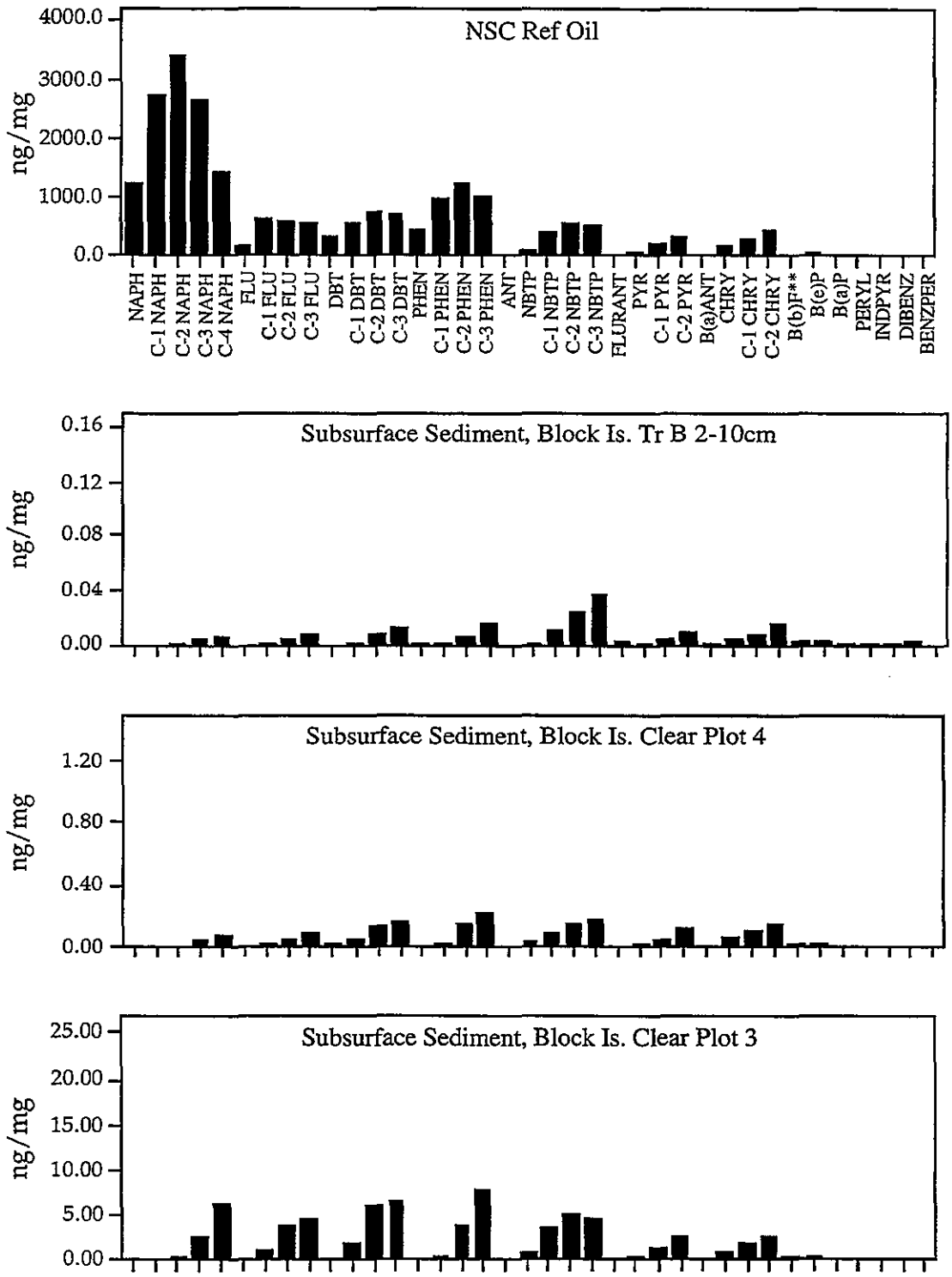

Figure 18. AH histogram profiles of subsurface sediment samples collected at Block Island. Samples from the upper intertidal (Tr A), the mid intertidal (Clear Plot 4) and the lower intertidal (Clear Plot 3) are compared to the NSC reference oil.

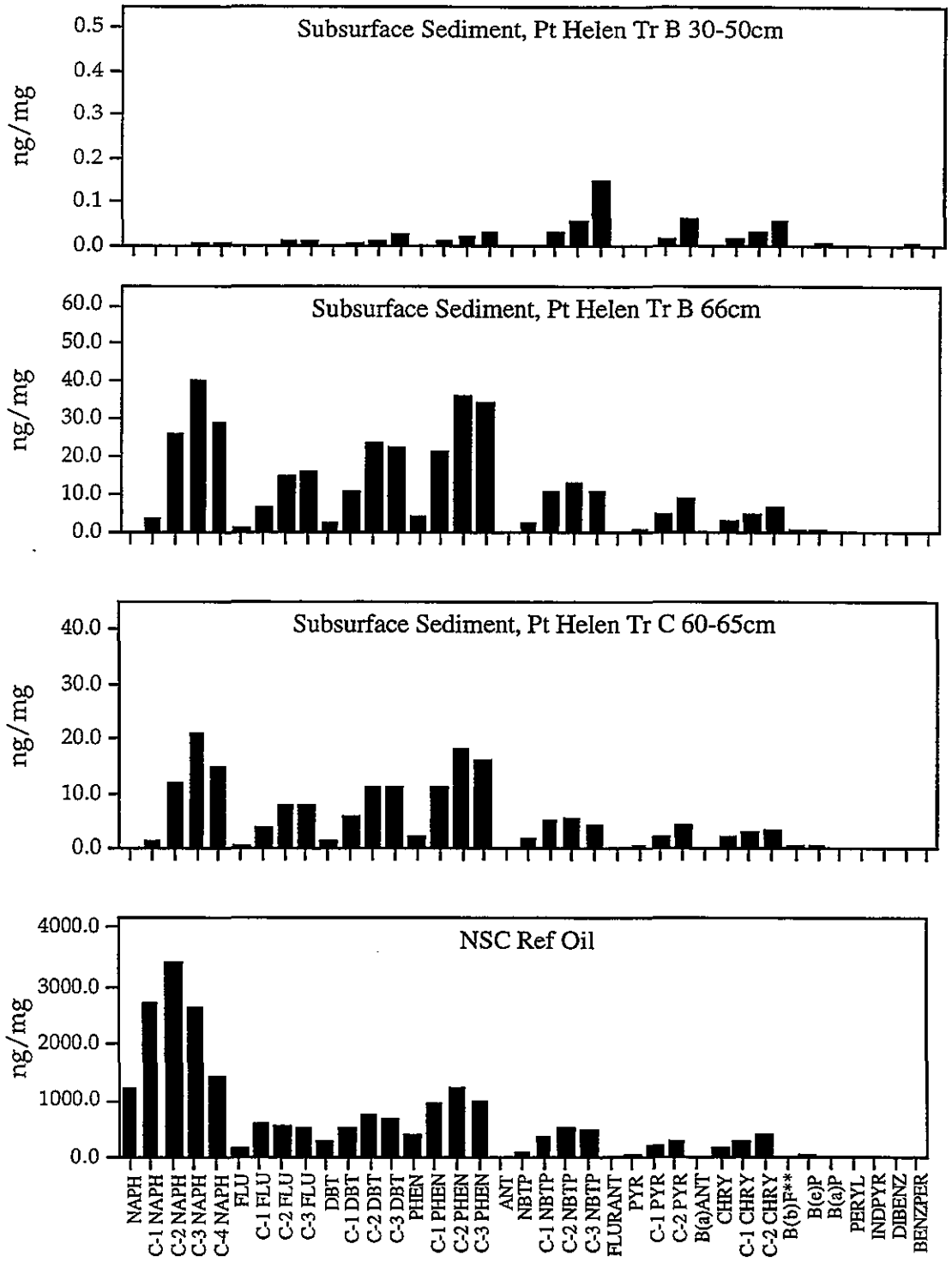

Figure 19. AH histogram profiles of samples collected at geomorphological trenches in Pt Helen compared to the NSC Reference Oil. Concentration increases with depth for these upper intertidal trenches.

Smith Island

Figure 20 is TTAH histogram profiles for three beach samples collected at Smith Island, N-3. These samples consist of two subsurface samples, each from the upper intertidal zone, and one surface from the mid intertidal zone. For this suite of three samples, the lowest concentration is found at the mid intertidal surface sample and is consistent with the common weathering trends found for the Prince William Sound samples analyzed. Yet the sample is only moderately weathered indicating sheltering has occurred. The highest NSC concentration was identified in the upper intertidal zone at the Geomorphological site Trench A and buried 25- to 35-cm deep. The sample, protected by depth of penetration and less physical movement, is only slightly weathered. Geomorphological Trench B, located farther down the beach face, is moderately weathered. There appears to be no significant difference in the weathering patterns between the surface mid intertidal sample and subsurface sample at Trench B for this high energy, exposed beach. Similar concentrations and weathering characterization are found at the Point Helen site; both are boulder/cobble beaches. Smith Island exhibited the additional feature of visible surface sheens not found at Point Helen.

Knight Island

The Knight Island subsurface sediment samples present a unique histogram profile within the 1994 set of samples analyzed (Figure 21). The three upper intertidal samples are heavily weathered near the point of insufficient chromatographic data for petroleum identification. The sediments show significant removal of the alkylated homologs for the TAH when compared to subsurface sediments collected from Block Island, Point Helen, or Smith Island, even at a depth of 60 cm. Concentrations for all three samples are relatively low, less than 20 ng/mg TTAH. The uniqueness of these samples collected from an exposed to highly exposed beach face and subjected to significant bioremediation treatments in 1990 can not be completely explained without additional comparisons. More investigation is warranted for this site.

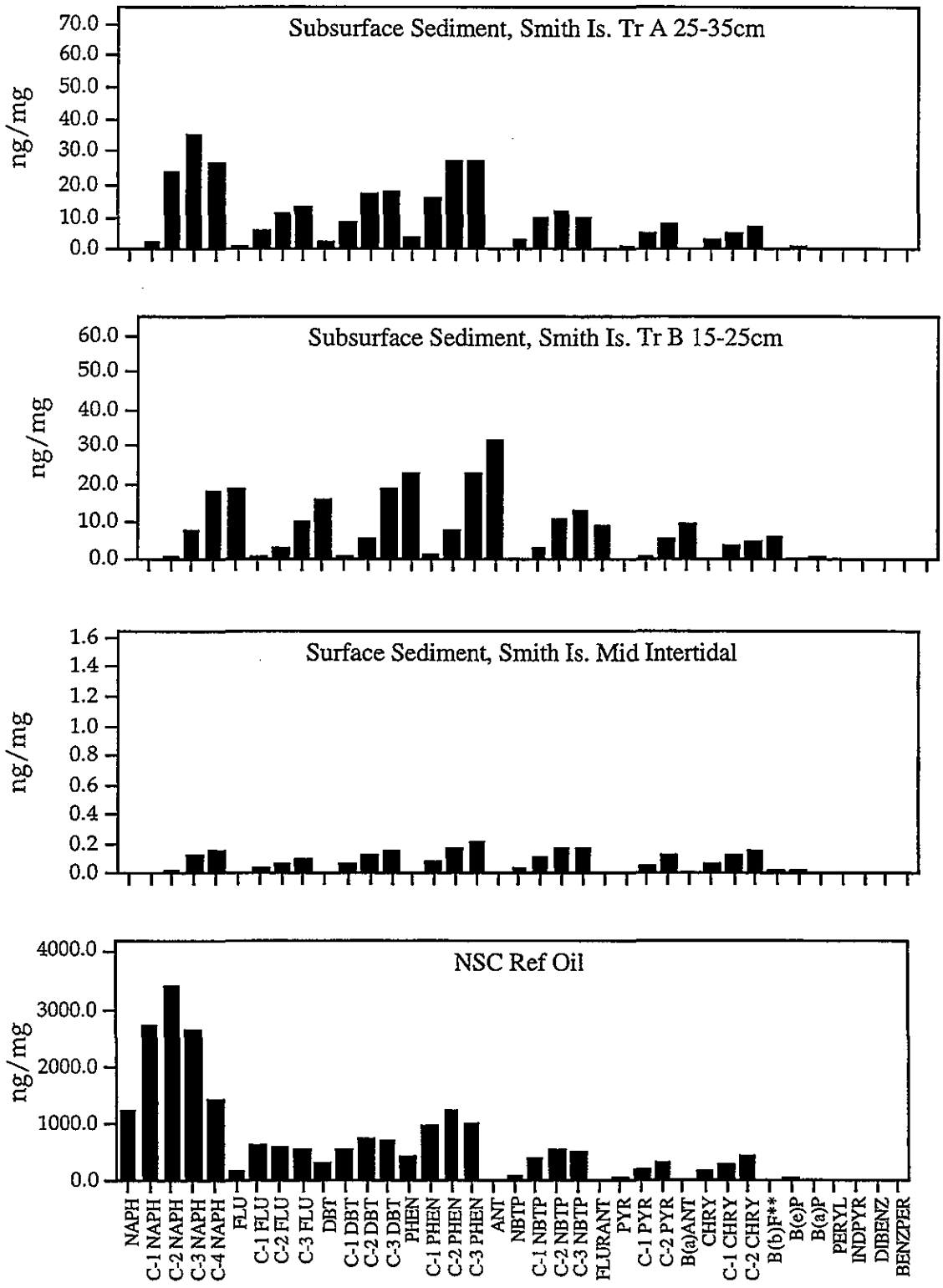

Figure 20. AH histogram profiles of samples collected at Smith Island site compared to the NSC reference oil. Significant concentration differences exist for the exposed surface to the subsurface sediment.

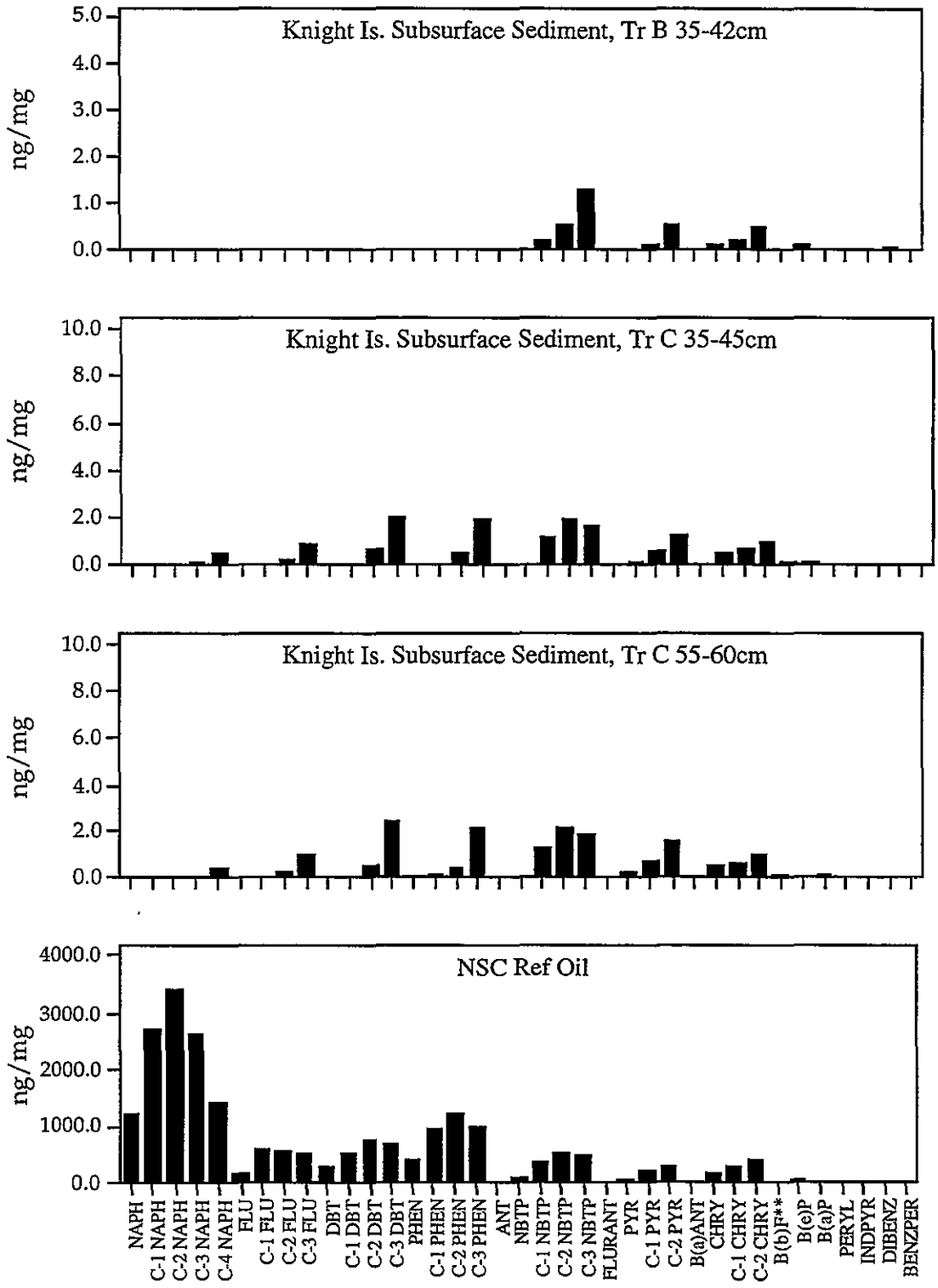

Figure 21. AH histogram profile comparisons for geomorphological trenches at Knight Island. Highly degraded AH profile is present for all samples.

Other Abiotic Samples Analyzed

Two geomorphological samples collected from Crafton Island surface and subsurface sediment were moderately weathered. Two Herring Bay rocky and a mixed soft biological subsurface sediment samples were classified as moderately weathered. The geomorphological subsurface sediments collected from LaTouche (N-15) and Perry (N-17) islands had very low concentrations and were heavily weathered. The surface sediment collected from Bay of Isles (N-06) contained a high concentration of NSC but was moderately weathered. The final two surface sediment samples collected from the Northwest Bay Rocky Islet biological site were extremely different. One sample collected in the upper intertidal zone Mearns' Spot sheltered beneath a rock contained the highest NSC concentration for surface sediments and was only slightly weathered. The mid intertidal composite sediment contained the lowest NSC concentrations and was highly weathered.

Sheen samples were observed and collected at three study beaches: Smith Island, Crafton Island, and the Sleepy Bay PES-51 test site. Figure 22 is a histogram comparison of these sheen samples compared to the reference oil. Note the similarity in profile. These samples are not quantitated, but presented for qualitative information indicating all three sheen samples appear only slightly weathered compared to either surface or subsurface sediments collected. An interesting note, all sheen samples contain more naphthalene constituents by relative concentrations than surface or subsurface sediment samples collected. Oil sheens are suggested as a possible source of intertidal bivalve contamination (Shigenaka and Henry 1994).

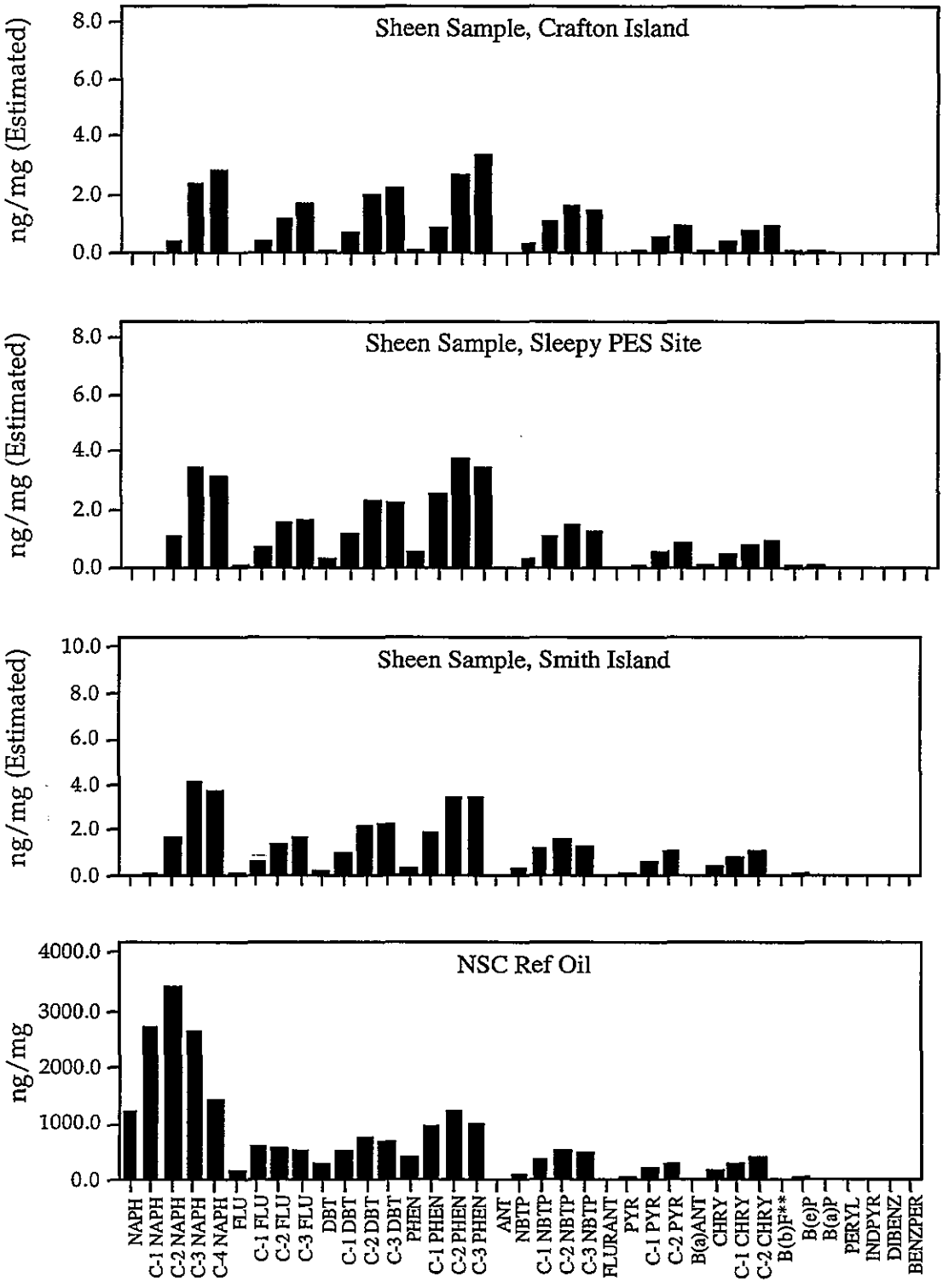

Figure 22. AH histogram profile comparisons for sheen samples. All contain a significant naphthalene component compared to sediment samples analyzed.

Weathering vs. Concentration

The weathering of oil and concentrations detected are directly related. Those sites in Prince William Sound with reduced degradation still contain the highest petroleum concentrations of "persistent oil" when it is environmental factors that create this persistence. The current monitoring sites indicate that the most persistence surface samples were found in highly sheltered locations, exposed to less physical reworking but degradation was still possible by photo oxidation and microbial activity. The subsurface samples, exposed to less reworking than surface sediments (Michel et al. 1991) and less photo oxidation contained the most significant concentrations of oil. The principle weathering process for these subsurface samples is microbial degradation, with possible sediment reworking during storm events. Fusey and Oudot (1984) reported that biodegradation is directly related to the concentration of residual oil contamination in sediments. If true, low concentrations of oil (100 to 500 mg/kg) are microbiologically degraded more rapidly than higher concentrations. Fusey and Oudot's statement holds for all data more than 1.0 mg/kg in the 1994 monitoring study. Those samples at trace concentrations (less than 1 mg/kg) do not appear to follow this trend, probably due to environmental influences, but further investigation is required to confirm.

An investigation of alkane degradation compared to AH degradation was made by plotting the TTAH concentration vs. the alkane weathering ratio of C-18/phytane. A direct linear correlation was not observed, but clear thresholds were. Seven surface samples, including sediment and mousse and nineteen subsurface sediments were plotted. The resulting plot, Figure 23, indicates three basic groupings of the surface and subsurface samples relative to the nc18/phytane vs. the TTAH index. The environmental patchiness in the surface and subsurface samples analyzed resulted in TTAH concentrations more than 100 ppm and less than 1.0 ppm.

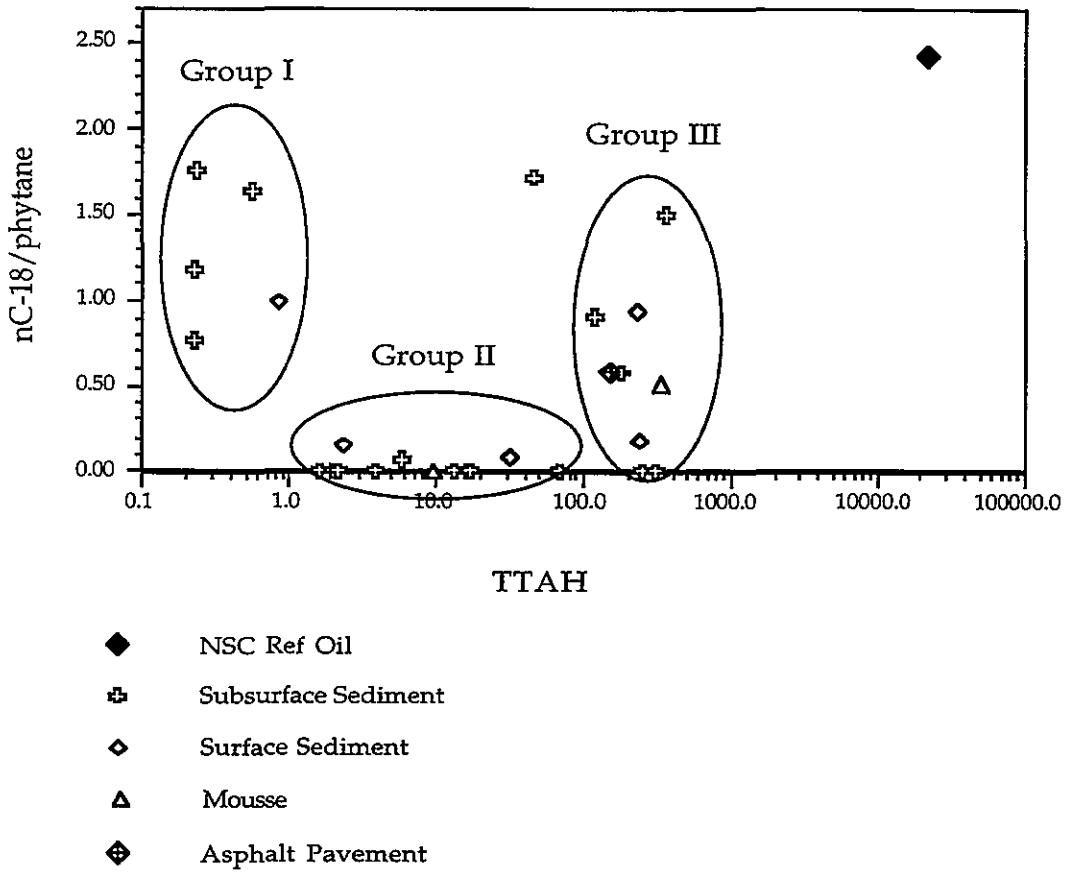

Figure 23. Weathering trends presented by concentrations Groupings. Note one outlier exists in Group II. This sample was collected at Herring Bay, Rocky site, trench B. All other samples fall within the groupings, but no significant trend is noted.

The samples analyzed appear to fall into three distinctive groups that can be divided into concentration ranges:

- Group I includes samples with TTAH less than 1.0 ng/mg.
- Group II is samples at TTAH concentrations between 1.0 and 100 ng/mg.
- Group III contains those greater than 100 ng/mg (no samples were greater than 500 ng/mg).

The distinguishing factor among the groups is the ratio of nC-18/phytane to the TTAH concentration.

Group I, or trace level samples, contains a ratio that indicates little weathering, which is confirmed by the selective ion plots. Alkanes are still present from normal C-14 to C-37 for various samples. The lighter PAH components, such as naphthalenes and decalins (decahydronaphthalenes, a bicyclic saturated ring structure and the alkylated groups) were present. This indicates low concentration, but very little alteration of the components. Samples included here may also be a result of cross contamination among sampling sites.

Group II, samples less than 100 mg/kg, appears to have undergone physical/ microbial processes at a more rapid rate than Group I and is noted for significant reduction of alkanes. All samples reviewed were significantly degraded with the most abundant chromatographic feature being the unresolved complex mixture (UCM). The PAH constituents still present varied from decalins, indicating little removal of bicyclic compounds, to alkylated C-2 naphthobenzothiophenes, indicative of significant AH reduction such as Knight Island samples. A threshold concentration was observed between Groups I and II for the correlation between AH concentration and the abundance of C18/phytane in Figure 23, with one Group II sample as an anomaly.

Group III covers a wide spectrum of alkane degradation, but very little reduction of the aromatic constituents. There appears to be another distinct threshold concentration between Groups II and III observed. These highly concentrated samples appear to cover a wide range of alkane degradation indicating that petroleum degradation is occurring despite the elevated concentration. Perhaps an increase in the microbial community population has been occurring at the alkane degraded sites due to microenvironment features that we have not yet correlated.

The beach exposure is closely correlated with habitat description (Michel et al. 1993) and used to describe the energy levels for the monitored beaches. Therefore Figure 24 represents the sediment data plotted by type of sample for additional information. Samples from sheltered surface zones are found in Groups I and III, while exposed surface sediments are in Group II. Sheltered subsurface samples are located in all three groups. Moderately exposed and exposed subsurface samples are found only in Group II, while the highly exposed subsurface samples are located in Groups I and III. The simple pattern that appears indicates that highly exposed surface samples and moderately exposed to exposed subsurface samples are more significantly microbially degraded, assuming that the alkanes will be removed by the microbial community first. The sheltered classification for surface and subsurface at low TTAH concentrations has

undergone limited reduction of C18 alkane relative to phytane. For the higher concentrations the ratio is variable. These groupings indicate the range of degradation present at the 1994 monitoring sites and with further investigation into the sites, perhaps other degradation inhibiting or promoting factors can be determined.

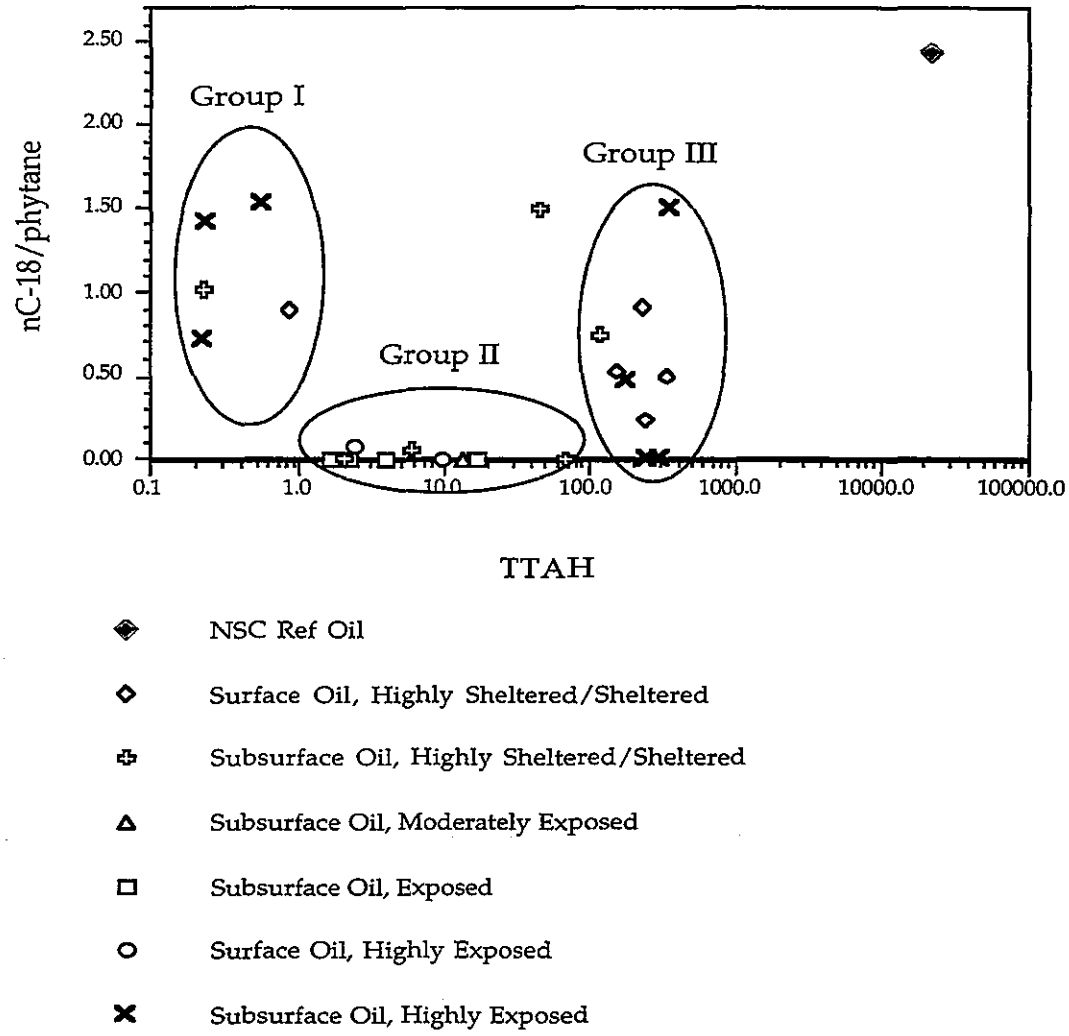

Figure 24. Weathering trends by exposure classification. The moderately exposed and exposed subsurface samples with the highly exposed surface oil appear to contain the most significant alkane degradation in Group II. The sheltered and highly exposed classifications appear to be variable.

Bioaccumulation and Bioavailability of AH

Analytical results from biota samples collected in 1994 show continued evidence of AH contamination, but the process of exposure, bioaccumulation, and depuration at the study sites is not fully understood. As previously stated, source-fingerprinting analyses have correlated most of the contamination as being derived from the 1989 T/V *Exxon Valdez* oil spill. Alterations in the oil chemistry are consistent with biodegradation and biotransformation (weathering). Clearly, bivalves at different sites exhibit varying levels of continued oil tainting. Those animals with the higher body burdens are generally located in or adjacent to chronic sources of oil pollution such as Block Island. This is also true for samples collected near chronic non-*Exxon Valdez* pollution sources such as Whittier Harbor. A mussel sample collected at the dock in Whittier Harbor contained the highest concentration of AH for all samples collected in 1994. Although the mechanisms of exposure are currently being investigated, Figure 25 represents possible transport, uptake, and depuration mechanisms for bivalves in Prince William Sound. To further investigate bioavailability, samples of bivalves, sheens, and sediments analyzed in 1994 are compared by a series of histogram plots that highlight evidence of exposure and depuration mechanisms.

The sediment samples collected were from areas known to be impacted by the T/V *Exxon Valdez.* No sediment control samples were collected in 1994. The clam and mussel samples contained less oil than the sediment or sheen samples near or adjacent to the sampling location. Biota samples collected at Block Island, Smith Island, Sleepy Bay, and Bay of Isles (N6) are discussed below with respect to documenting evidence of the continued bioavailability of residual oil in Prince William Sound. Direct comparison of the clams and mussels at most study sites is compromised since the samples are generally not collected immediately adjacent to each other. In an effort to compare and contrast clam and mussel AH uptake and body burden, small plots and a representative subsample of the sediment were excavated at several locations. This technique can potentially overcome the spatial difference found in past sampling and allow for direct comparison of sediments, clams, and mussels with respect to oil concentration and bioaccumulation. These samples are referenced as "clear plot" samples. Unfortunately, most of the clear plot sampling was compromised in the transportation delay and was not analyzed. Only a single complete clear plot collection survived.

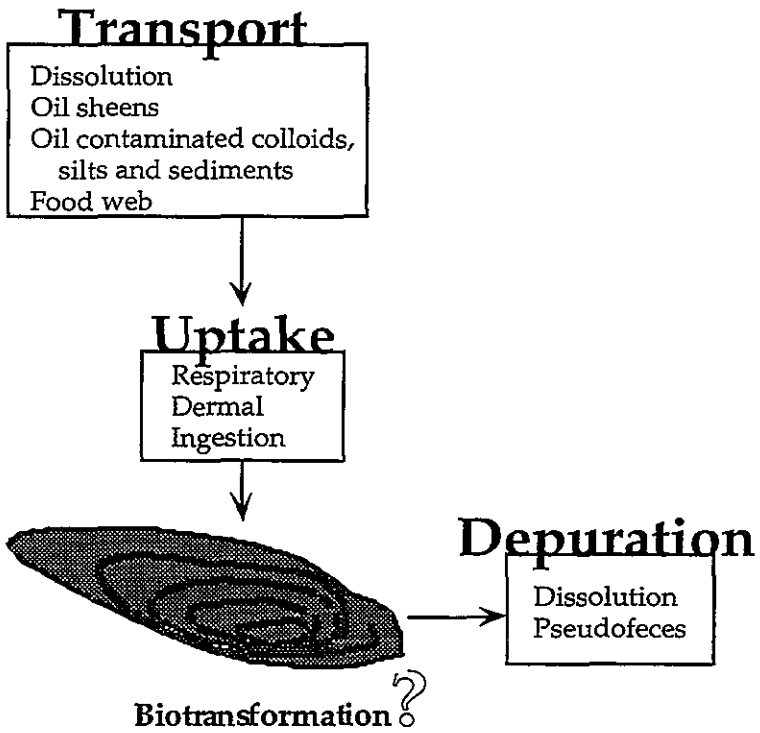

Figure 25. Schematic diagram of possible exposure routes or pollution transport, uptake, and depuration mechanisms.

Block Island

Figure 26 is a histogram comparison of clams, mussels, and sediments collected from the mid-intertidal zone at Block Island and identified as clear plot #4. The sediment sample was collected only from the subsurface sediments in the clear plot. Relative to fresh NSC, all the profiles are highly altered. The sediment profile is heavily weathered with the more volatile and water soluble 2- and 3-ring AH being highly depleted. The AH profile detected in mussels was highly similar to the sediment, but even more depleted of the 2- and 3-ring AH. The loss of the more water-soluble components probably represents depuration by passive diffusion. Interestingly, the clam results were similar to the sediment profile except for the flourenes and pyrenes. It is unclear what contributed to the enhanced levels of flourenes and pyrenes. Possible explanations include selective uptake, reduced depuration rates for these compounds in clams, or matrix interferences unique to this site.

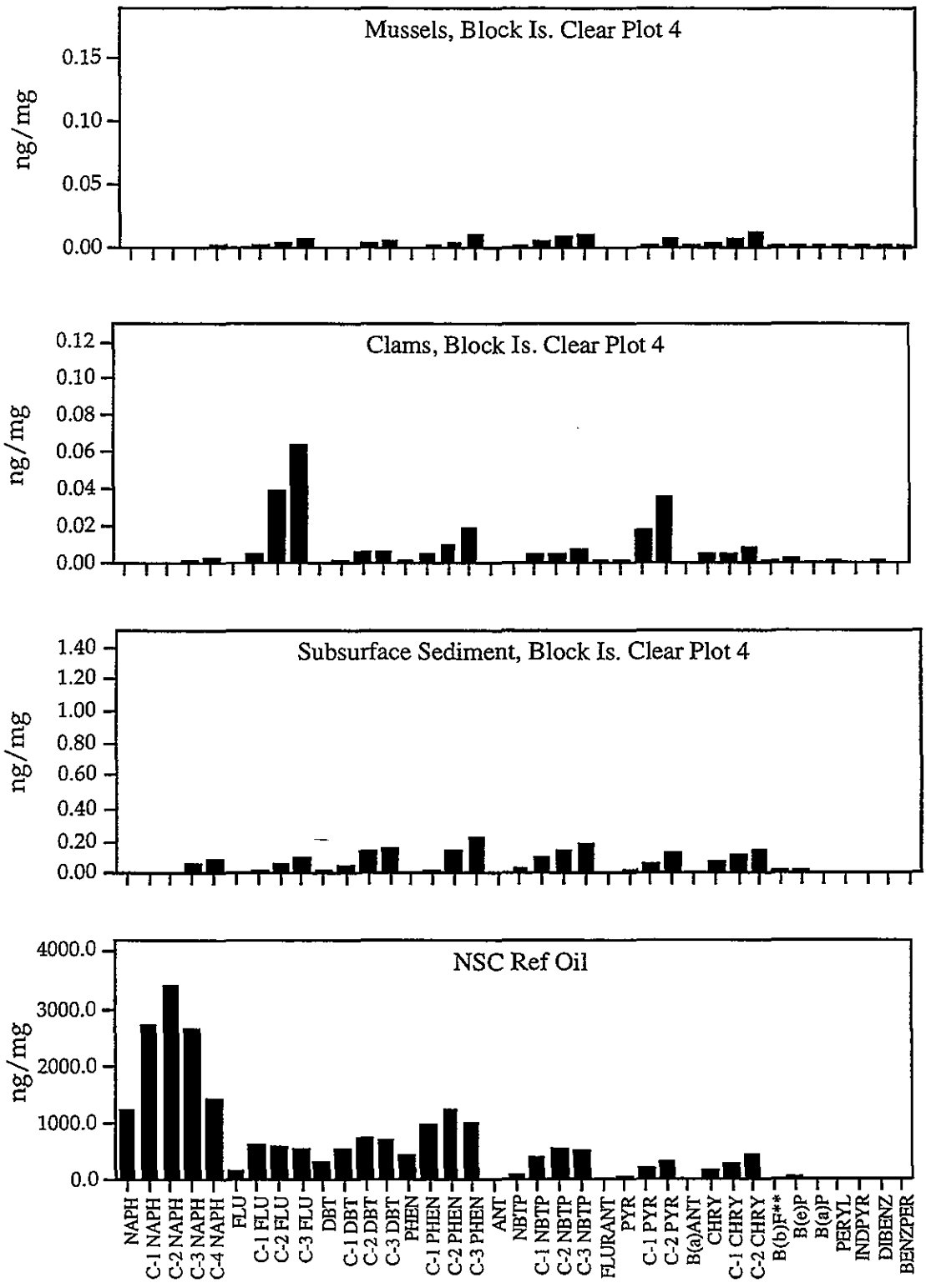

Figure 26. AH histogram profiles for clams, mussels and sediment samples collected at Block Island from clear plot 4 to the NSC reference oil.

The results from another clear plot at Block Island where only subsurface sediment and mussels were collected are presented in Figure 27. Apparently this plot, although identified as being in the lower-intertidal zone, was too far into the mid-intertidal zone for clam habitation or the substrate was too rocky. The mussel and subsurface sediment profiles are near identical at both clear-plots. There is also a correlation in the AH concentration at the two sites. At clear-plot 4, the sediment and mussel TTAH concentration was 2.0 and 0.12 ng/mg, respectively. At clear plot 3, the sediment AH concentration was significantly higher as was the AH body-burden concentration in the mussels, 69 and 0.4 ng/mg, respectively. At clear plot 4, the TTAH concentration in the clam was twice that in the mussels, 0.26 and 0.12 ng/mg, respectively. Clearly, more investigations of this type should be considered to correlate bioaccumulation, AH body-burden concentrations, and AH profile differences between clams and mussels. Apparently clams and mussels, while both are bivalves and filter feeders, are not identical with respect to uptake and depuration of AH at the study sites.

As part of a clam transplant study for 1994-95, indigenous or native clams were collected at Outside Bay and Block island. The 1994 sampling and results are for the native population only (transplant results will be available in the 1995 survey report). The Outside Bay clam sample showed very little influence of petroleum; while the Block Island clam sample appeared to contain significantly high levels of petroleum contamination, 0.043 ng/mg compared to 0.32 ng/mg, respectively. Similar to the clear plot samples at Block Island, the native Block Island clams showed evidence of enriched concentrations of flourenes and pyrenes and a "fresher" overall oil pattern as evidenced by the abundance of naphthalenes in the AH profile. As previously stated, more direct comparisons of clams and mussels are required to assess differences in uptake and depuration at chronically oiled sites such as Block Island.

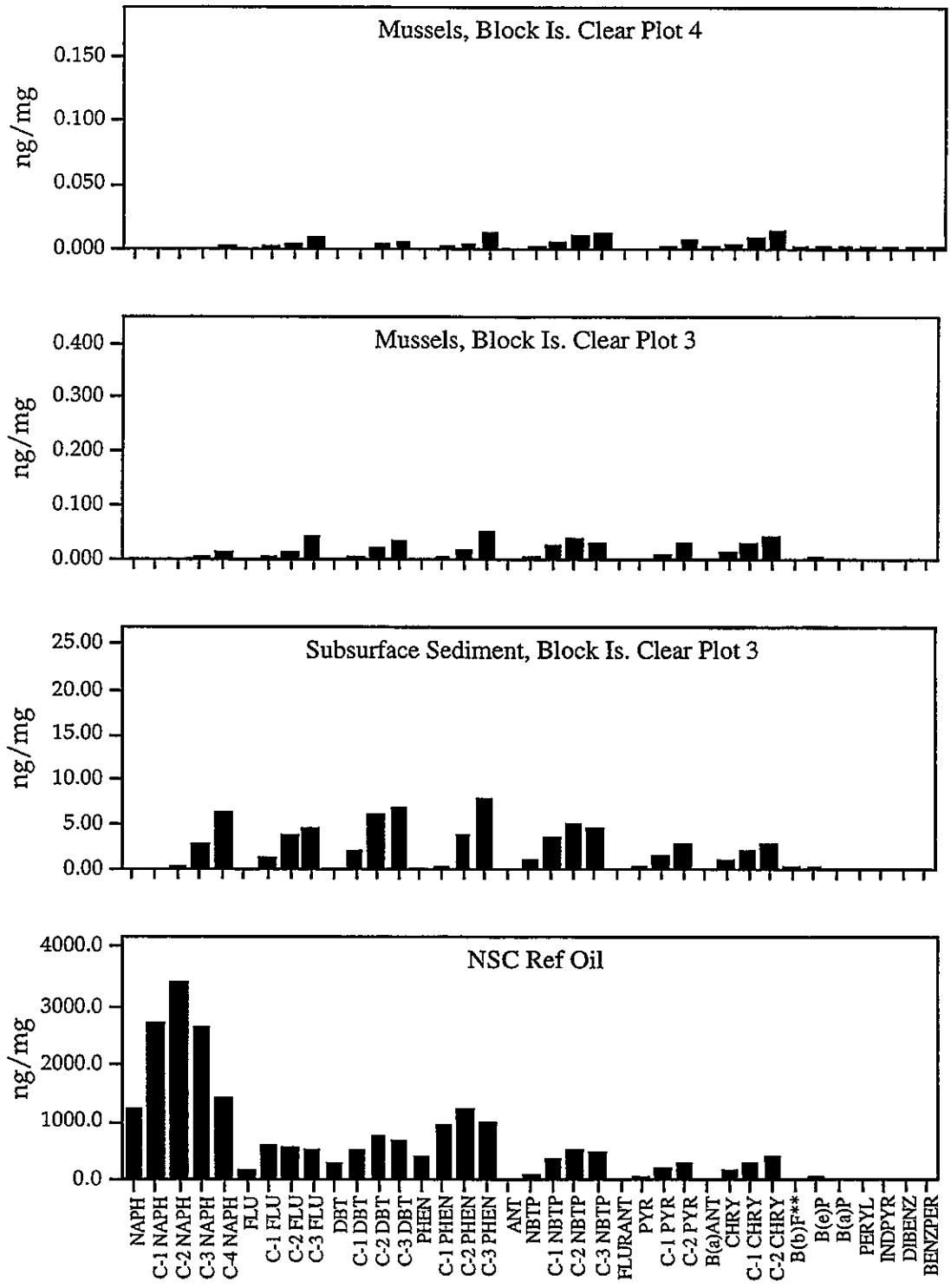

Figure 27. AH histogram profiles for mussels and sediment samples collected at Block Island at clear plot 4 and clear plot 3 compared to the NSC reference oil.

Smith Island

AH detected in mussels collected at the west boulder, the east boulder, and along the geomorphological transect at the Smith Island site N3 are compared to NSC in Figure 28. The AH profiles for each of the mussel samples are similar and represent only the more water-insoluble constituents in the NSC profile. Figure 29 is a comparison of the same mussel sample collected along the N3 transect and a sheen and surface sample collected at Smith Island. The mussels N3 sample closely emulates the surface sediment profile. Both demonstrate highly weathered oil profiles when compared to the sheen sample collected at Smith Island and the NSC reference oil. The sheen sample collected at Smith Island is highly similar to all the sheen samples collected in 1994 and is representative of only slightly weathered crude oil.

Sleepy Bay, PES-51 Test Site

During the 1994 field collection, a visible sheen was collected near the 1993 PES-51 test site. Mussels were also collected next to the PES-51 test site and at the normal biological monitoring site. Figure 30 indicates a strong oil AH profile at the Sleepy Bay PES-51 test site and only trace levels of oil at the normal biological monitoring site. A significant difference exists between the two samples with respect to AH body-burden concentration. Apparently, the mussels near the PES-51 site are still subject to chronic oil pollution at concentrations high enough to result in a well recognizable oil fingerprint pattern. With respect to weathering, the oil profile of the sheen sample is somewhere between the unweathered reference oil and the weathered oil pattern exhibited in the mussel sample. These two mussel samples provide further evidence of the patchy nature of residual oil exposure in Prince William Sound.

Bay of Isles

Two surface samples (essentially asphalt pavements) were taken in the upper intertidal zone and compared to mussels living in the mid-intertidal zone along the geomorphological transect N6. The surface samples were highly contaminated with moderately weathered oil, but little influence was detected in the mussels collected (Figure 31). The AH body burden detected in the mussel tissue was dominated by benzo(a)anthracene, chrysene, benzo(a)pyrene, etc.; compounds more indicative of pollution derived from burning rather than spilled oil. No direct route of exposure between the pavement and the mussels is apparent as evidenced by the lack of oil-

derived AH in the mussel tissue. Based on this observation, the interesting conclusion is that the mere presence of a high concentration of oil in sediment alone does not confirm exposure to intertidal animals living in proximity; there must be a route of exposure. At the Bay of Isle site, the heavily oiled upper intertidal pavement is not acting as a source. No sheens were visible. The encapsulated pavement is apparently not acting as a source for dissolution or as a source of oil contaminated fine sediments and silts (at least at any detectable rate). The presence of the pyrogenic-sourced AH in the mussel sample collection at the Bay of Isle site provides evidence of exposure to particulates derived from the incomplete combustion of fossil fuels.

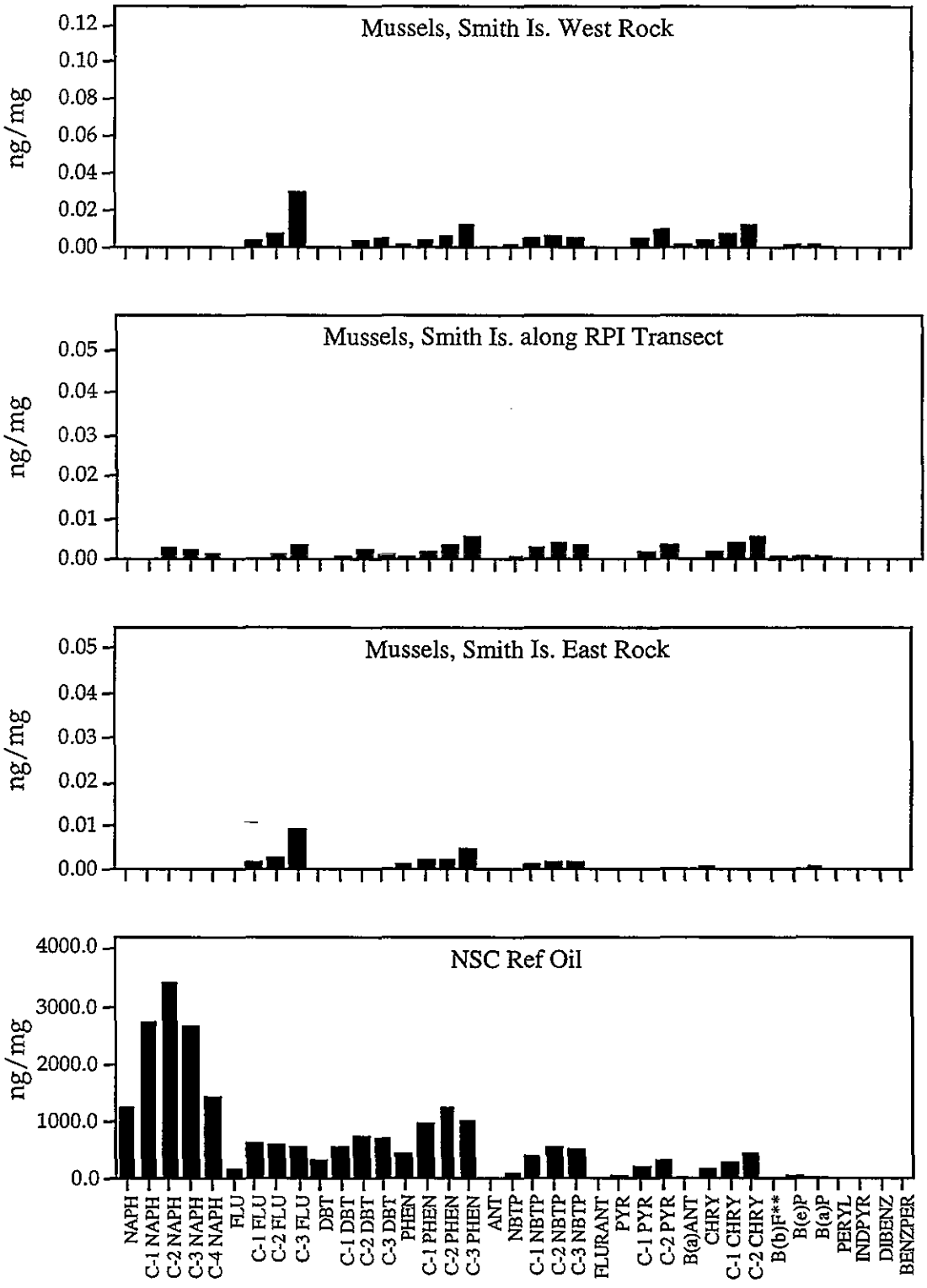

Figure 28. AH histogram profiles of samples collected at Smith Island site compared to the NSC reference oil.

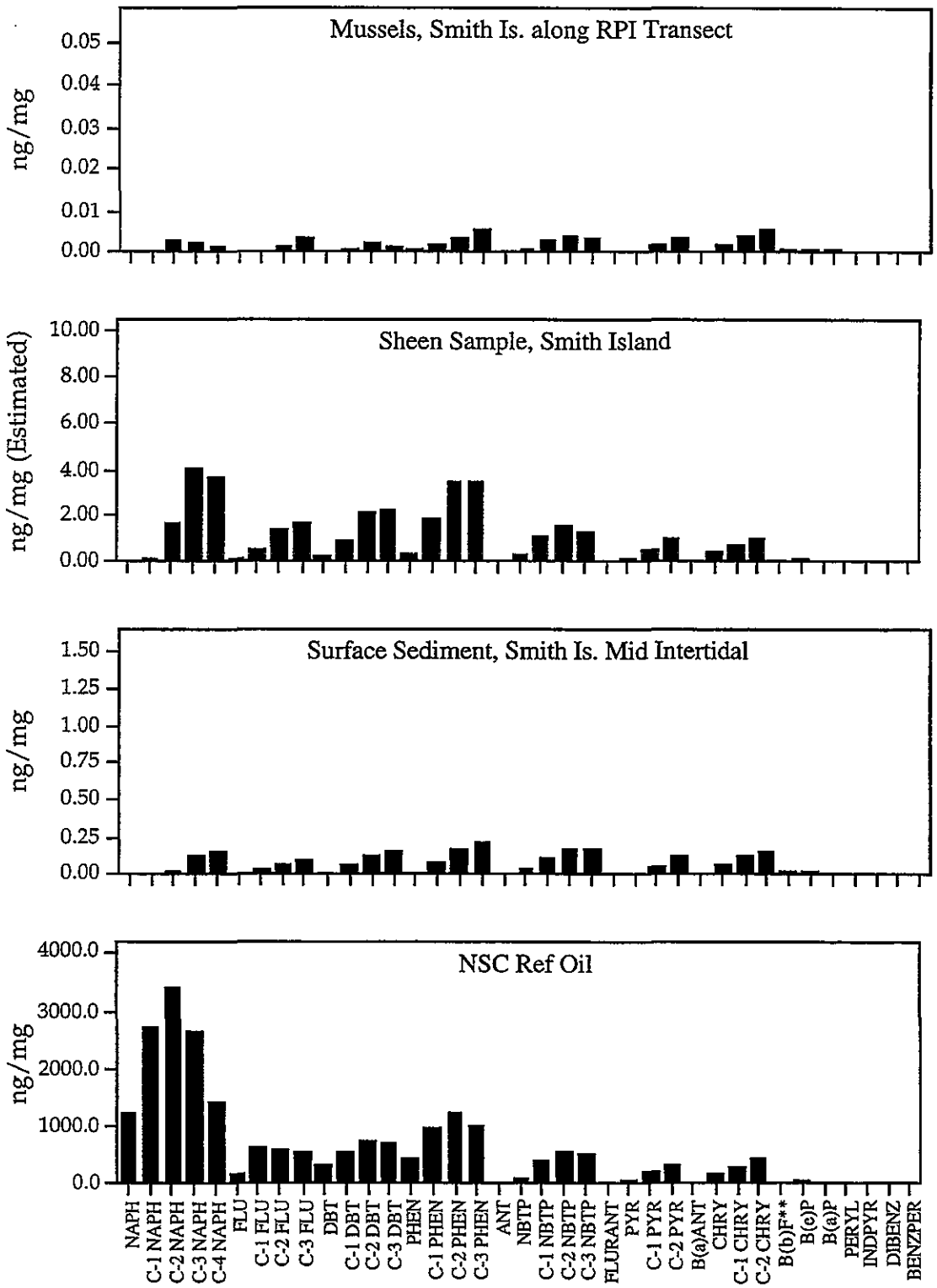

Figure 29. AH histogram profiles of samples collected at Smith Island site compared to the NSC reference oil.

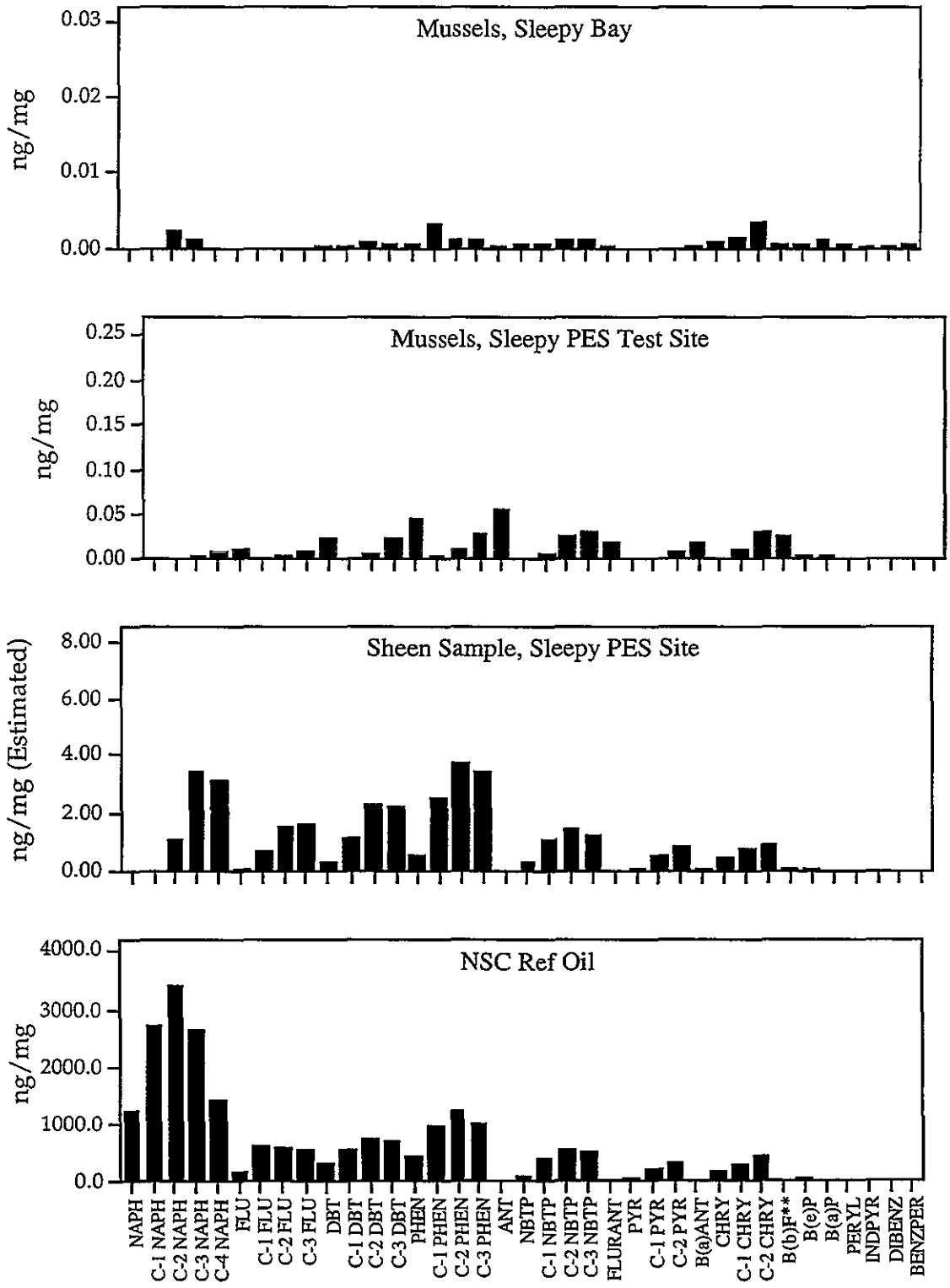

Figure 30. AH histogram profiles of samples collected at Sleepy Bay and Sleepy PES-51 site compared to the NSC reference oil.

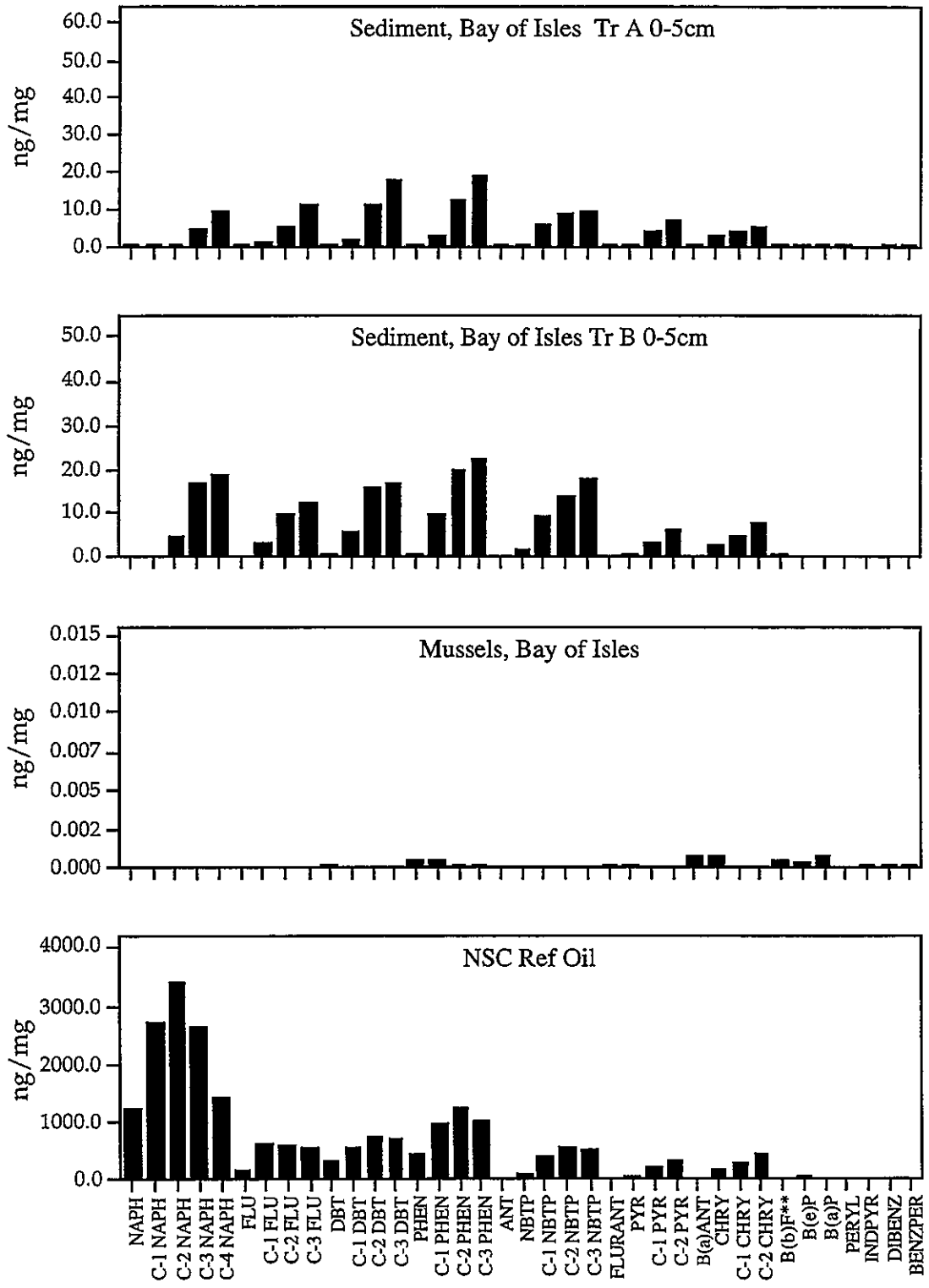

Figure 31. AH histogram profiles of samples collected at Bay of Isles compared to the NSC reference oil. Due to pyrogenic influence in mussel samples, data is normalized by chyrsene.

QUALITY ASSURANCE AND QUALITY CONTROL

The reproducibility of the analytical values and the precision of the analysis was evaluated for the samples. Analytical variability in sample matrix extraction is common for environmental samples and environmental patchiness is the most significant variable in the sample evaluation. Duplicate samples were not taken during this collection period, but significant replication was completed in the analytical assessment to determine the laboratory variability. There were 39 replicated analysis and 11 duplicated extractions were completed for abiotic and biotic samples. The complete tabulated list of analytical reproducibility is presented in Appendix C. The average ranges for specific sample matrices are listed below.

Surface Sediment

The analytical variability for the composite sample analyzed as a duplicate and two replicates for a total of four analyses had 34 percent relative percent difference (RPD). A difference of 35 percent was noted between the sample and the duplicate.

Subsurface Sediment

Two duplicates were completed for this sample type, with the values ranging from 25 to 6 percent. There were 13 replicate analyses completed with a range of 46 to 0 percent RPD and an average of 20 percent RPD.

Tissue (Clams and Mussels)

In analytical assessments of these samples, 8 duplicates and 18 replicates were analyzed. The average variance for the duplicated samples was 25 percent; the range was 10 to 49 percent. The average variance for the replicates was 34 percent. This is just beyond the 30 percent criteria we established, but with higher number of trace-level samples with added matrix interferences for subtraction, these values are acceptable.

CONCLUSION

Oil that spilled into Prince William Sound more than for years ago can still be found. The chemical composition and morphological appearance of the residual oil in sediment and visible oil sampled varied due to natural weathering processes generally influenced by the microhabitat conditions where the oil was stranded. Weathered oil ranged in appearance from "relatively unweathered" oil that would still sheen, to traces of "well weathered" residual oil mixed with fine sediments and colloidal material. The

latter had obtained characteristics more appropriately described as peat-like rather than oil-like. Not all the AH detected in the samples was derived from the 1989 oil spill. Evidence of oil from other sources, such as fuel oils, was also present in several samples as was AH derived as by-products of combustion. Many sediment samples contained no evidence of residual oil at the analysis detection limit (approximately 1 part per billion).

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ACRONYMS

AH	aromatic hydrocarbons
AP	asphalt pavements
CL	clam
EPA	U.S. Environmental Protection Agency
FFPI	Fossil Fuel Pollution Index
GC/MS	gas chromatography/mass spectrometry
HAZMAT	Hazardous Materials Response and Assessment Division (NOAA)
IES	Institute for Environmental Studies (LSU)
L	low intertidal
LSU	Louisiana State University
M	mid intertidal
mg	milligram
MID	multiple ion detection
MO	mousse
MS	mussel
ng	nanogram
NOAA	National Oceanic and Atmospheric Administration
NSC	North Slope Crude
PAH	polycyclic aromatic hydrocarbon
PFTBA	perfluorotributylamine
ppm	parts per million
QA	quality assurance
QC	quality control
RPD	relative percent difference
RPI	Research Planning Incorporated
S	surface sediments
SFI	source-fingerprinting index
SH	sheen sample
SID	selective ion detection
SPMD	semipermeable membrane devices
SS	subsurface sediments

TAH	targeted aromatic hydrocarbons
TPH	total petroleum hydrocarbons
TTAH	total targeted aromatic hydrocarbons
U	upper intertidal
UCM	unresolved complex mixture
ww	wet weight

APPENDIX A
GC/MS and TPH Results

Terminology and Acronyms

ANT:	anthracene
B(a)ANT:	benzo(a)anthracene
B(a)P:	benzo(a)pyrene
B(b)F:	benzo(b)fluoranthrene and benzo(k)fluoranthrene summed
B(e)P:	benzo(e)pyrene
BENZPER:	benzo(g,h,i)perylene
C-1 NAPH:	alkyl sulstituted naphthalenes (2-methylnaphthalene and 1-methylnaphthalene)
CHRY:	chrysene
DBT:	dibenzothiophene
DIBENZ:	dibenz(a,h)anthracene
FLU:	fluorene
FLURANT:	fluoranthrene
INDPRY:	indeno(1,2,3-cd)pyrene
M.I.:	matrix interference
NAPH:	naphthalene
NBTP:	naphthobenzothiophene
PERY:	perylene
PHEN:	phenanthrene
PYR:	pyrene
*:	number of individual animals per sample n.
**:	B(b)F and B(k)F combined
***:	modified fossil fuel petroleum index (FFPI)

MS FILE	ED4301I	ED5008G	ED5009C	AVERAGE (3)	ED4341F	ED5100D
LSU ID	N4210-081	N4210-081R	N4210-081R	N4210-081X	N4210-010	N4210-010R
SAMPLE ID	N06-01	N06-01	N06-01	N06-01	94072106	94072106
n=*	NA	NA	NA	NA	10	10
LOCATION	Bay of Isles	Bay of Isles	Bay of Isles	Bay of Isles	Block Is.	Block Is.
B/CLASS: EL	U	U	U	U	M	M
B/CLASS: CAT	2	2	2	2	2	2
B/CLASS: HAB	Unclassified	Unclassified	Unclassified	Unclassified	Mixed	Mixed
GEO/CLASS:	SRS	SRS	SRS	SRS	PB/TF	PB/TF
EXPOSURE INDEX	HS/SH	HS/SH	HS/SH	HS/SH	HS/SH	HS/SH
COMMENTS:	--	--	--	--	Clear Plot 4-1	Clear Plot 4-1
TRENCH,DEPTH:	Tr A, 0-5cm	Tr A, 0-5cm	Tr A, 0-5cm	Tr A, 0-5cm	--	--
TYPE:	AP/OP	AP/OP	AP/OP	AP/OP	Clam	Clam
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	0.0063	nd (H)	0.0016	0.0026	nd (T)	nd (T)
C-1 NAPH	0.0290	0.0330	0.0210	0.0280	nd (T)	nd (T)
C-2 NAPH	0.6700	0.8669	0.7200	0.7500	0.0008	nd (T)
C-3 NAPH	4.5000	5.2000	4.5000	4.7000	0.0025	nd (T)
C-4 NAPH	9.2000	10.0000	8.7000	9.3000	0.0056	nd (T)
FLU	nd (H)	0.1100	0.0890	0.0660	nd (T)	nd (T)
C-1 FLU	1.1000	1.3000	1.3000	1.2000	0.0057	0.0051
C-2 FLU	5.5000	5.4000	6.2000	5.7000	0.0240	0.0540
C-3 FLU	11.0000	12.0000	11.0000	11.0000	0.0380	0.0890
DBT	0.1300	0.1500	0.3900	0.2200	0.0002	nd (T)
C-1 DBT	2.3000	2.2000	2.2000	2.2000	0.0014	0.0014
C-2 DBT	12.0000	11.0000	11.0000	11.0000	0.0054	0.0080
C-3 DBT	19.0000	18.0000	16.0000	18.0000	0.0052	0.0080
PHEN	0.2600	0.2600	0.2600	0.2600	0.0005	0.0007
C-1 PHEN	3.1000	3.0000	3.0000	3.0000	0.0019	0.0061
C-2 PHEN	12.0000	12.0000	12.0000	12.0000	0.0086	0.0120
C-3 PHEN	19.0000	20.0000	18.0000	19.0000	0.0087	0.0300
ANT	0.0320	nd (H)	nd (H)	0.0110	0.0004	nd (T)
NBTP	0.9900	1.4000	0.7500	1.0000	0.0004	nd (T)
C-1 NBTP	4.5000	9.2000	3.9000	5.9000	0.0019	0.0067
C-2 NBTP	5.8000	16.0000	5.1000	9.0000	0.0026	0.0067
C-3 NBTP	5.2000	18.0000	4.3000	9.2000	0.0037	0.0130
FLURANT	0.1300	nd (H)	nd (H)	0.0430	0.0005	0.0008
PYR	0.7700	0.8100	0.6700	0.7500	0.0005	0.0009
C-1 PYR	3.7000	5.0000	3.4000	4.0000	0.0130	0.0220
C-2 PYR	6.6000	9.9000	5.5000	7.3000	0.0250	0.0450
B(a)ANT	0.0530	0.1700	0.0740	0.0990	0.0005	0.0003
CHRY	2.3000	4.4000	2.2000	3.0000	0.0039	0.0051
C-1 CHRY	2.5000	7.2000	2.4000	4.0000	0.0047	0.0074
C-2 CHRY	2.8000	11.0000	3.0000	5.6000	0.0059	0.0120
B(b)F**	0.2400	0.5800	0.2000	0.3400	0.0001	0.0019
B(e)P	0.0450	1.1000	0.2500	0.4700	0.0013	0.0026
B(a)P	0.3400	0.1000	0.0340	0.1600	0.0006	nd (T)
PERYL	0.0930	nd (H)	nd (H)	0.0310	0.0017	0.0017
INDPYR	nd (H)	nd (H)	nd (H)	nd (H)	0.0004	nd (T)
DIBENZ	0.0730	0.2000	0.0750	0.1200	0.0007	0.0006
BENZPER	0.0150	0.0760	0.0150	0.0350	0.0003	nd (T)
Total Target AH:	140.0000	190.0000	130.0000	150.0000	0.1800	0.3400
FFPI***	0.9348	0.9187	0.9368	0.9285	0.8810	0.9064
C3Da/C3Db	2.0200	2.0700	2.0450	2.0450	-	-
C3Pa/Pb	1.0900	1.0340	1.0450	1.0563	-	-
C1PYa/PYb	0.5900	0.5550	0.5650	0.5700	-	-
C1CYa/CYb	7.3800	5.9290	5.6700	6.3263	-	-
NOR/HOP	0.7500	0.8390	0.7290	0.7727	-	-
C3D/C3P	1.2000	1.1340	1.0640	1.1327	-	-
nC-17/pristane	0.6100	0.6700	0.4420	0.5740	-	-
nC-18/phytane	0.5600	0.5800	0.4340	0.5247	-	-
% Dry Wt	-	-	-	-	41.00	-
TPH (ppt)	27.00	-	-	27.00	-	-

MS FILE	AVERAGE (2)	ED4343D	ED4343E	AVERAGE (2)	ED4342G	ED4341D
LSU ID	N4210-010X	N4210-032	N4210-032Dup	N4210-032X	N4210-015	N4188-007
SAMPLE ID	94072106	94072405	94072405	94072405	94072202	-
n=*	10	24	24	24	5	9
LOCATION	Block Is.	Outside Bay	Outside Bay	Outside Bay	Shelter Bay	Block Is.
B/CLASS: EL	M	L	L	L	L	L
B/CLASS: CAT	2	1	1	1	3	2
B/CLASS: HAB	Mixed	Mixed	Mixed	Mixed	Mixed	Mixed
GEO/CLASS:	PB/TF	Unclassified	Unclassified	Unclassified	BB	PB/TF
EXPOSURE INDEX	HS/SH	HS/SH	HS/SH	HS/SH	HS/SH	HS/SH
COMMENTS:	Clear Plot 4-1	--	--	--	--	Clear Plot 1-1
TRENCH,DEPTH:	--	--	--	--	--	--
TYPE:	Clam	Clam	Clam	Clam	Clam	Clam/Suspect
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 NAPH	0.0004	nd (T)	nd (T)	nd (T)	nd (T)	0.0012
C-3 NAPH	0.0013	nd (T)	nd (T)	nd (T)	nd (T)	0.0038
C-4 NAPH	0.0028	nd (T)	nd (T)	nd (T)	nd (T)	0.0034
FLU	nd (T)	nd (T)	0.0055	0.0028	nd (T)	nd (T)
C-1 FLU	0.0054	nd (T)	nd (T)	nd (T)	nd (T)	0.0064
C-2 FLU	0.0390	nd (T)	nd (T)	nd (T)	nd (T)	0.0190
C-3 FLU	0.0640	nd (T)	nd (T)	nd (T)	nd (T)	0.0300
DBT	0.0001	0.0002	0.0001	0.0002	0.0001	0.0004
C-1 DBT	0.0014	nd (T)	nd (T)	nd (T)	0.0003	0.0013
C-2 DBT	0.0067	nd (T)	nd (T)	nd (T)	0.0008	0.0030
C-3 DBT	0.0066	nd (T)	nd (T)	nd (T)	0.0004	0.0021
PHEN	0.0006	0.0007	0.0005	0.0006	0.0008	0.0011
C-1 PHEN	0.0040	nd (T)	nd (T)	nd (T)	0.0016	0.0026
C-2 PHEN	0.0100	nd (T)	nd (T)	nd (T)	0.0011	0.0065
C-3 PHEN	0.0190	nd (T)	nd (T)	nd (T)	0.0014	0.0084
ANT	0.0002	nd (T)	nd (T)	nd (T)	0.0001	0.0003
NBTP	0.0002	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NBTP	0.0043	nd (T)	nd (T)	nd (T)	nd (T)	0.0020
C-2 NBTP	0.0047	nd (T)	nd (T)	nd (T)	nd (T)	0.0008
C-3 NBTP	0.0084	nd (T)	nd (T)	nd (T)	nd (T)	0.0020
FLURANT	0.0006	0.0002	0.0001	0.0002	0.0006	0.0002
PYR	0.0007	nd (T)	nd (T)	nd (T)	0.0005	0.0004
C-1 PYR	0.0180	nd (T)	nd (T)	nd (T)	0.0012	0.0094
C-2 PYR	0.0350	nd (T)	nd (T)	nd (T)	0.0011	0.0210
B(a)ANT	0.0004	0.0008	0.0006	0.0007	0.0009	0.0003
CHRY	0.0045	0.0007	0.0006	0.0007	0.0014	0.0016
C-1 CHRY	0.0061	nd (T)	nd (T)	nd (T)	nd (T)	0.0029
C-2 CHRY	0.0090	nd (T)	nd (T)	nd (T)	nd (T)	0.0022
B(b)F**	0.0010	0.0002	0.0001	0.0002	0.0006	0.0002
B(e)P	0.0020	0.0005	0.0003	0.0004	0.0005	0.0007
B(a)P	0.0003	0.0014	0.0010	0.0012	0.0006	0.0004
PERYL	0.0017	0.0010	0.0008	0.0009	0.0002	0.0006
INDPYR	0.0002	0.0012	0.0007	0.0010	0.0002	0.0004
DIBENZ	0.0006	0.0011	0.0008	0.0010	0.0002	0.0006
BENZPER	0.0002	nd (T)	0.0006	0.0003	nd (T)	0.0004
Total Target AH:	0.2600	0.0081	0.0120	0.0100	0.0140	0.1400
FFPI***	0.8966	0.0658	0.4997	0.3265	0.4837	0.8957
C3Da/C3Db	-	-	-	-	-	-
C3Pa/Pb	-	-	-	-	-	-
C1PYa/PYb	-	-	-	-	-	-
C1CYa/CYb	-	-	-	-	-	-
NOR/HOP	-	-	-	-	-	-
C3D/C3P	-	-	-	-	-	-
nC-17/pristane	-	-	-	-	-	-
nC-18/phytane	-	-	-	-	-	-
% Dry Wt	41.00	74.00	-	74.00	-	57.00
TPH (ppt)	-	-	-	-	-	-

MS FILE	ED4341E	AVERAGE (2)	ED4341C	ED4342C	ED4342D	ED4343G
LSU ID	N4188-007	N4188-007X	N4188-008	N4188-051	N4188-055	N4188-058
SAMPLE ID	-	-	-	-	94062019	94062512
n=*	9	9	2	70	9	36
LOCATION	Block Is.	Block Is.	Block Is.	Block Is.	Block Is.	Elrington W.
B/CLASS: EL	L	L	L	L	L	L
B/CLASS: CAT	2	2	2	2X	2X	3
B/CLASS: HAB	Mixed	Mixed	Mixed	Mixed	Mixed	Mixed
GEO/CLASS:	PB/TF	PB/TF	PB/TF	PB/TF	PB/TF	C/BPB
EXPOSURE INDEX	HS/SH	HS/SH	HS/SH	HS/SH	HS/SH	EX
COMMENTS:	Clear Plot 1-1	Clear Plot 1-1	Clear Plot 1-2	Xplant Stock	Xplant Stock	--
TRENCH,DEPTH:	--	--	--	--	--	--
TYPE:	Clam/Suspect	Clam/Suspect	Clam/Suspect	Clam/Suspect	Clam/Suspect	Clam/Suspect
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NAPH	nd (T)	nd (T)	nd (T)	0.0004	0.0210	nd (T)
C-2 NAPH	0.0015	0.0014	0.0012	0.0033	0.0300	nd (T)
C-3 NAPH	0.0046	0.0042	0.0027	0.0078	0.0220	nd (T)
C-4 NAPH	0.0064	0.0049	0.0037	0.0130	0.0100	nd (T)
FLU	nd (T)	nd (T)	nd (T)	nd (T)	0.0044	nd (T)
C-1 FLU	0.0085	0.0075	0.0057	0.0091	0.0120	nd (T)
C-2 FLU	0.0350	0.0270	0.0073	0.0240	0.0220	nd (T)
C-3 FLU	0.0550	0.0430	0.0190	0.0310	0.0320	nd (T)
DBT	0.0005	0.0005	0.0004	0.0009	0.0039	nd (T)
C-1 DBT	0.0024	0.0019	0.0018	0.0029	0.0046	0.0004
C-2 DBT	0.0054	0.0042	0.0044	0.0095	0.0071	nd (T)
C-3 DBT	0.0041	0.0031	0.0040	0.0087	0.0033	nd (T)
PHEN	0.0018	0.0015	0.0006	0.0010	0.0065	0.0006
C-1 PHEN	0.0063	0.0045	0.0029	0.0051	0.0078	nd (T)
C-2 PHEN	0.0110	0.0088	0.0064	0.0120	0.0130	nd (T)
C-3 PHEN	0.0150	0.0120	0.0079	M.I.	M.I.	nd (T)
ANT	0.0006	0.0004	nd (T)	0.0004	0.0002	nd (T)
NBTP	0.0006	0.0003	0.0005	nd (T)	nd (T)	nd (T)
C-1 NBTP	0.0023	0.0022	0.0026	0.0052	0.0022	nd (T)
C-2 NBTP	0.0037	0.0023	0.0035	0.0071	0.0034	nd (T)
C-3 NBTP	0.0037	0.0029	0.0032	0.0120	0.0048	nd (T)
FLURANT	0.0008	0.0005	0.0003	0.0012	0.0010	0.0005
PYR	0.0010	0.0007	0.0005	0.0008	0.0011	0.0003
C-1 PYR	0.0170	0.0130	0.0067	0.0100	0.0071	nd (T)
C-2 PYR	0.0380	0.0300	0.0170	0.0180	0.0190	nd (T)
B(a)ANT	0.0016	0.0010	0.0002	0.0028	0.0019	nd (T)
CHRY	0.0045	0.0031	0.0015	0.0092	0.0049	0.0048
C-1 CHRY	0.0065	0.0047	0.0024	0.0150	0.0063	nd (T)
C-2 CHRY	0.0068	0.0045	0.0031	0.0160	0.0070	nd (T)
B(b)F**	0.0006	0.0004	0.0005	0.0049	0.0015	0.0013
B(e)P	0.0016	0.0011	0.0008	0.0060	0.0019	nd (T)
B(a)P	0.0007	0.0006	0.0007	0.0045	0.0017	0.0014
PERYL	0.0013	0.0010	0.0008	0.0067	0.0016	nd (T)
INDPYR	0.0005	0.0004	0.0005	0.0023	0.0008	0.0008
DIBENZ	0.0009	0.0008	0.0008	0.0032	0.0011	0.0018
BENZPER	0.0007	0.0005	0.0004	0.0029	0.0004	nd (T)
Total Target AH:	0.2500	0.1900	0.1100	0.2500	0.2700	0.0120
FFPI***	0.8785	0.8855	0.8842	0.7859	0.8724	0.0603
C3Da/C3Db	-	-	-	-	-	-
C3Pa/Pb	-	-	-	-	-	-
C1PYa/PYb	-	-	-	-	-	-
C1CYa/CYb	-	-	-	-	-	-
NOR/HOP	-	-	-	-	-	-
C3D/C3P	-	-	-	-	-	-
nC-17/pristane	-	-	-	-	-	-
nC-18/phytane	-	-	-	-	-	-
% Dry Wt	-	57.00	40.00	47.00	47.00	57.00
TPH (ppt)	-	-	-	-	-	-

MS FILE	ED4343H	ED5005I	AVERAGE (2)	ED4342F	ED4342H	ED4343C
LSU ID	N4188-058Dup	N4188-058R	N4188-058X	N4188-014	N4188-016	N4188-021
SAMPLE ID	94062512	94062512	94062512	94062312	94062217	94062108
n=*	36	36	36	26	54	18
LOCATION	Elrington W.	Elrington W.	Elrington W.	Mussel Beach S.	NW Bay WArm	Outside Bay
B/CLASS: EL	L	L	L	L	L	L
B/CLASS: CAT	3	3	3	2	3	1
B/CLASS: HAB	Mixed	Mixed	Mixed	Mixed	Mixed	Mixed
GEO/CLASS:	C/BPB	C/BPB	C/BPB	PB/TF	BB	Unclassified
EXPOSURE INDEX	EX	EX	EX	MS	MS	HS/SH
COMMENTS:	--	--	--	--	--	--
TRENCH,DEPTH:	--	--	--	--	--	--
TYPE:	Clam/Suspect	Clam/Suspect	Clam/Suspect	Clam/Suspect	Clam/Suspect	Clam/Suspect
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	0.0012
C-1 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	0.0045
C-2 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	0.0019	0.0042
C-3 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	0.0024	0.0037
C-4 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	0.0015	0.0034
FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	0.0008
C-1 FLU	nd (T)	nd (T)	nd (T)	0.0018	nd (T)	nd (T)
C-2 FLU	nd (T)	nd (T)	nd (T)	0.0026	nd (T)	nd (T)
C-3 FLU	nd (T)	M.I.	nd (T)	0.0064	nd (T)	nd (T)
DBT	nd (T)	nd (T)	nd (T)	0.0004	0.0002	0.0013
C-1 DBT	nd (T)	nd (T)	0.0002	0.0012	0.0004	0.0010
C-2 DBT	nd (T)	M.I.	nd (T)	0.0023	0.0012	0.0012
C-3 DBT	nd (T)	M.I.	nd (T)	0.0014	0.0009	nd (T)
PHEN	nd (T)	0.0008	0.0003	0.0014	0.0003	0.0022
C-1 PHEN	nd (T)	M.I.	nd (T)	0.0039	0.0013	0.0031
C-2 PHEN	0.0015	0.0066	0.0007	0.0027	0.0017	0.0022
C-3 PHEN	0.0045	M.I.	0.0023	0.0110	0.0053	0.0027
ANT	nd (T)	nd (T)	nd (T)	0.0001	nd (T)	0.0001
NBTP	nd (T)	M.I.	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NBTP	nd (T)	M.I.	nd (T)	0.0009	0.0014	nd (T)
C-2 NBTP	nd (T)	M.I.	nd (T)	0.0018	0.0010	nd (T)
C-3 NBTP	nd (T)	M.I.	nd (T)	0.0021	0.0017	nd (T)
FLURANT	nd (T)	0.0004	0.0002	0.0004	0.0002	0.0006
PYR	nd (T)	0.0002	0.0002	0.0003	0.0002	0.0006
C-1 PYR	nd (T)	nd (T)	nd (T)	0.0018	0.0008	nd (T)
C-2 PYR	nd (T)	M.I.	nd (T)	0.0027	0.0024	nd (T)
B(a)ANT	nd (T)	M.I.	nd (T)	0.0001	nd (T)	0.0011
CHRY	nd (T)	M.I.	0.0024	0.0020	0.0015	0.0024
C-1 CHRY	nd (T)	M.I.	nd (T)	0.0023	0.0016	0.0035
C-2 CHRY	nd (T)	M.I.	nd (T)	0.0022	0.0014	0.0038
B(b)F**	0.0001	M.I.	0.0007	0.0002	0.0001	0.0037
B(e)P	0.0004	M.I.	0.0002	0.0006	0.0005	0.0039
B(a)P	0.0005	M.I.	0.0010	0.0002	0.0002	0.0046
PERYL	0.0003	M.I.	0.0001	0.0003	0.0002	0.0046
INDPYR	0.0005	nd (T)	0.0007	nd (T)	nd (T)	0.0052
DIBENZ	0.0005	nd (T)	0.0012	nd (T)	nd (T)	0.0060
BENZPER	0.0005	nd (T)	0.0002	nd (T)	nd (T)	0.0046
Total Target AH:	0.0087	0.0080	0.0100	0.0530	0.0300	0.0760
FFPI***	0.6904	M.I.	0.3261	0.8314	0.8383	0.4515
C3Da/C3Db	-	-	-	-	-	-
C3Pa/Pb	-	-	-	-	-	-
C1PYa/PYb	-	-	-	-	-	-
C1CYa/CYb	-	-	-	-	-	-
NOR/HOP	-	-	-	-	-	-
C3D/C3P	-	-	-	-	-	-
nC-17/pristane	-	-	-	-	-	-
nC-18/phytane	-	-	-	-	-	-
% Dry Wt	-	-	57.00	58.00	55.00	58.00
TPH (ppt)	-	-	-	-	-	-

MS FILE	ED4343F	ED4301C	ED5003C	ED5003D	ED5099J	AVERAGE (3)
LSU ID	N4188-056	N4210-066	N4210-005	N4210-005Dup	N4210-005R	N4210-005X
SAMPLE ID	94062526	N17-X02	94072308	94072308	94072308	94072308
n=*	38	NA	57	57	57	57
LOCATION	Sheep Bay	Perry	Bay of Isles	Bay of Isles	Bay of Isles	Bay of Isles
B/CLASS: EL	L	M	M	M	M	M
B/CLASS: CAT	1	3	2	2	2	2
B/CLASS: HAB	Mixed	Unclassified	Rocky	Rocky	Rocky	Rocky
GEO/CLASS:	BB?	C/BPB	SRS	SRS	SRS	SRS
EXPOSURE INDEX	HS/SH	HE	HS/SH	HS/SH	HS/SH	HS/SH
COMMENTS:	--	--	--	--	--	--
TRENCH,DEPTH:	--	Surface	--	--	--	--
TYPE:	Clam/Suspect	MO	Mussel	Mussel	Mussel	Mussel
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-3 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-4 NAPH	nd (T)	0.0210	nd (T)	nd (T)	nd (T)	nd (T)
FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 FLU	nd (T)	0.0840	nd (T)	nd (T)	nd (T)	nd (T)
C-3 FLU	nd (T)	0.1800	nd (T)	nd (T)	nd (T)	nd (T)
DBT	nd (T)	nd (T)	0.0002	0.0001	nd (T)	0.0001
C-1 DBT	0.0005	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 DBT	nd (T)	0.0770	nd (T)	nd (T)	nd (T)	nd (T)
C-3 DBT	nd (T)	0.3500	nd (T)	nd (T)	nd (T)	nd (T)
PHEN	0.0013	0.0075	0.0007	0.0007	0.0003	0.0006
C-1 PHEN	nd (T)	0.0470	0.0010	0.0006	nd (T)	0.0005
C-2 PHEN	nd (T)	0.1000	0.0010	nd (T)	nd (T)	0.0003
C-3 PHEN	nd (T)	0.3800	0.0006	nd (T)	nd (T)	0.0002
ANT	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
NBTP	nd (T)	0.0190	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NBTP	nd (T)	0.3600	nd (T)	nd (T)	nd (T)	nd (T)
C-2 NBTP	nd (T)	1.1000	nd (T)	nd (T)	nd (T)	nd (T)
C-3 NBTP	nd (T)	2.6000	nd (T)	nd (T)	nd (T)	nd (T)
FLURANT	0.0007	0.0093	0.0002	nd (T)	nd (T)	0.0001
PYR	0.0005	0.0650	0.0002	nd (T)	nd (T)	0.0001
C-1 PYR	nd (T)	0.3600	nd (T)	nd (T)	nd (T)	nd (T)
C-2 PYR	nd (T)	1.0000	nd (T)	nd (T)	nd (T)	nd (T)
B(a)ANT	nd (T)	0.0100	0.0013	0.0005	0.0005	0.0008
CHRY	nd (T)	0.5100	0.0013	0.0005	0.0005	0.0008
C-1 CHRY	0.0080	0.6900	nd (T)	nd (T)	nd (T)	nd (T)
C-2 CHRY	0.0034	1.0000	nd (T)	nd (T)	nd (T)	nd (T)
B(b)F**	0.0004	0.0620	0.0010	0.0003	0.0003	0.0005
B(e)P	0.0005	0.2300	0.0009	0.0004	nd (T)	0.0004
B(a)P	nd (T)	0.0210	0.0014	0.0007	0.0003	0.0008
PERYL	0.0004	0.0200	nd (T)	nd (T)	nd (T)	nd (T)
INDPYR	nd (T)	0.0160	0.0007	nd (T)	nd (T)	0.0002
DIBENZ	nd (T)	0.0940	0.0009	nd (T)	nd (T)	0.0003
BENZPER	nd (T)	0.0420	0.0008	nd (T)	nd (T)	0.0003
Total Target AH:	0.0160	9.5000	0.0120	0.0038	0.0020	0.0060
FFPI***	0.5470	0.8274	0.2189	0.1914	0.0779	0.1958
C3Da/C3Db	-	1.6500	-	-	-	-
C3Pa/Pb	-	1.0400	-	-	-	-
C1PYa/PYb	-	0.5800	-	-	-	-
C1CYa/CYb	-	52.3000	-	-	-	-
NOR/HOP	-	0.6600	-	-	-	-
C3D/C3P	-	1.0500	-	-	-	-
nC-17/pristane	-	nd	-	-	-	-
nC-18/phytane	-	nd	-	-	-	-
% Dry Wt	70.00	-	33.00	-	-	33.00
TPH (ppt)	-	7.30	-	-	-	-

MS FILE	ED4362F	ED4362I	ED4362J	ED4363E	AVERAGE (2)	ED4346C
LSU ID	N4210-014	N4210-019	N4210-020	N4210-020R	N4210-020X	N4210-023
SAMPLE ID	94072101	94072103	94072102	94072102	94072102	94072105
n=*	45	27	44	44	44	41
LOCATION	Block Is.	Block Is.	Block Is.	Block Is.	Block Is.	Block Is.
B/CLASS: EL	M	M	M	M	M	M
B/CLASS: CAT	2	2	2	2	2	2
B/CLASS: HAB	Rocky	Rocky	Mixed	Mixed	Mixed	Mixed
GEO/CLASS:	PB/TF	PB/TF	PB/TF	PB/TF	PB/TF	PB/TF
EXPOSURE INDEX	HS/SH	HS/SH	HS/SH	HS/SH	HS/SH	HS/SH
COMMENTS:	--	Clear Plot 3-2	--	--	--	Clear Plot 4-2
TRENCH,DEPTH:	--	--	--	--	--	--
TYPE:	Mussel	Mussel	Mussel	Mussel	Mussel	Mussel
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 NAPH	nd (T)	0.0014	0.0013	0.0006	0.0010	nd (T)
C-3 NAPH	nd (T)	0.0040	0.0025	0.0024	0.0025	0.0017
C-4 NAPH	nd (T)	0.0110	0.0051	0.0044	0.0048	0.0018
FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 FLU	nd (T)	0.0026	0.0024	0.0028	0.0026	0.0020
C-2 FLU	0.0003	0.0120	0.0076	0.0085	0.0081	0.0024
C-3 FLU	0.0006	0.0390	0.0250	0.0260	0.0260	0.0079
DBT	nd (T)	0.0002	0.0001	0.0002	0.0002	0.0003
C-1 DBT	nd (T)	0.0028	0.0015	0.0016	0.0016	0.0007
C-2 DBT	nd (T)	0.0180	0.0084	0.0094	0.0089	0.0030
C-3 DBT	nd (T)	0.0300	0.0130	0.0160	0.0150	0.0044
PHEN	nd (T)	0.0007	0.0003	0.0004	0.0004	0.0003
C-1 PHEN	nd (T)	0.0043	0.0031	0.0036	0.0034	0.0017
C-2 PHEN	0.0002	0.0150	0.0077	0.0099	0.0088	0.0038
C-3 PHEN	0.0003	0.0460	0.0230	0.0290	0.0260	0.0094
ANT	nd (T)	nd (T)	nd (T)	0.0001	0.0000	0.0001
NBTP	nd (T)	0.0047	0.0022	0.0028	0.0025	0.0010
C-1 NBTP	0.0002	0.0220	0.0110	0.0130	0.0120	0.0038
C-2 NBTP	0.0002	0.0360	0.0170	0.0190	0.0180	0.0075
C-3 NBTP	0.0002	0.0290	0.0150	0.0160	0.0160	0.0093
FLURANT	nd (T)	0.0003	0.0001	0.0002	0.0002	0.0002
PYR	nd (T)	0.0007	0.0002	0.0003	0.0003	0.0003
C-1 PYR	0.0001	0.0077	0.0046	0.0047	0.0047	0.0016
C-2 PYR	0.0003	0.0260	0.0110	0.0180	0.0150	0.0068
B(a)ANT	nd (T)	0.0005	0.0005	0.0008	0.0006	0.0022
CHRY	nd (T)	0.0099	0.0059	0.0069	0.0064	0.0043
C-1 CHRY	0.0003	0.0270	0.0160	0.0170	0.0170	0.0090
C-2 CHRY	0.0004	0.0410	0.0230	0.0250	0.0240	0.0170
B(b)F**	nd (T)	0.0008	0.0005	0.0004	0.0005	0.0023
B(e)P	nd (T)	0.0021	0.0016	0.0014	0.0015	0.0034
B(a)P	nd (T)	0.0007	0.0007	0.0007	0.0007	0.0032
PERYL	nd (T)	0.0006	0.0006	0.0004	0.0005	0.0039
INDPYR	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	0.0029
DIBENZ	nd (T)	0.0003	0.0002	0.0001	0.0001	0.0036
BENZPER	nd (T)	0.0001	nd (T)	nd (T)	nd (T)	0.0026
Total Target AH:	0.0030	0.4000	0.2100	0.2400	0.2300	0.1200
FFPI***	0.9375	0.9096	0.8950	0.8998	0.8974	0.7166
C3Da/C3Db	-	-	-	-	-	-
C3Pa/Pb	-	-	-	-	-	-
C1PYa/PYb	-	-	-	-	-	-
C1CYa/CYb	-	-	-	-	-	-
NOR/HOP	-	-	-	-	-	-
C3D/C3P	-	-	-	-	-	-
nC-17/pristane	-	-	-	-	-	-
nC-18/phytane	-	-	-	-	-	-
% Dry Wt	44.00	50.00	46.00	-	46.00	46.00
TPH (ppt)	-	-	-	-	-	-

MS FILE	ED5005G	AVERAGE (2)	ED4346F	ED4357D	ED5005E	AVERAGE (2)
LSU ID	N4210-023R	N4210-023X	N4210-025	N4210-035	N4210-035R	N4210-035X
SAMPLE ID	94072105	94072105	94072208	94072210	94072210	94072210
n=*	41	41	47	49	49	49
LOCATION	Block Is.	Block Is.	Chenega	Crab Bay	Crab Bay	Crab Bay
B/CLASS: EL	M	M	NA	M	M	M
B/CLASS: CAT	2	2		1	1	1
B/CLASS: HAB	Mixed	Mixed	Dock	Mixed	Mixed	Mixed
GEO/CLASS:	PB/TF	PB/TF	Dock	SSBB?	SSBB?	SSBB?
EXPOSURE INDEX	HS/SH	HS/SH	--	HS/SH	HS/SH	HS/SH
COMMENTS:	Clear Plot 4-2	Clear Plot 4-2	Not E.V.O.	--	--	--
TRENCH,DEPTH:	--	--	--	--	--	--
TYPE:	Mussel	Mussel	Mussel	Mussel	Mussel	Mussel
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 NAPH	nd (T)	nd (T)	0.0048	nd (T)	nd (T)	nd (T)
C-3 NAPH	nd (T)	0.0008	0.0100	nd (T)	nd (T)	nd (T)
C-4 NAPH	nd (T)	0.0009	0.0170	nd (T)	nd (T)	nd (T)
FLU	nd (T)	nd (T)	0.0004	nd (T)	nd (T)	nd (T)
C-1 FLU	0.0028	0.0024	0.0150	nd (T)	nd (T)	nd (T)
C-2 FLU	0.0029	0.0027	0.0270	nd (T)	nd (T)	nd (T)
C-3 FLU	0.0072	0.0076	0.0330	nd (T)	nd (T)	nd (T)
DBT	0.0002	0.0002	0.0012	0.0002	0.0002	0.0002
C-1 DBT	0.0005	0.0006	0.0069	nd (T)	nd (T)	nd (T)
C-2 DBT	0.0036	0.0033	0.0200	nd (T)	nd (T)	nd (T)
C-3 DBT	0.0066	0.0055	0.0130	nd (T)	nd (T)	nd (T)
PHEN	0.0004	0.0004	0.0061	0.0009	0.0011	0.0010
C-1 PHEN	0.0017	0.0017	0.0200	0.0008	0.0009	0.0009
C-2 PHEN	0.0042	0.0040	0.0290	0.0010	0.0012	0.0011
C-3 PHEN	0.0120	0.0110	0.0180	0.0014	0.0013	0.0014
ANT	0.0016	0.0008	0.0007	0.0002	0.0003	0.0002
NBTP	0.0016	0.0013	0.0008	nd (T)	nd (T)	nd (T)
C-1 NBTP	0.0068	0.0053	0.0016	nd (T)	nd (T)	nd (T)
C-2 NBTP	0.0120	0.0098	0.0035	nd (T)	nd (T)	nd (T)
C-3 NBTP	0.0120	0.0110	0.0037	nd (T)	nd (T)	nd (T)
FLURANT	0.0001	0.0001	0.0068	0.0006	0.0005	0.0006
PYR	0.0002	0.0002	0.0053	0.0004	0.0003	0.0004
C-1 PYR	0.0026	0.0021	0.0047	nd (T)	0.0009	0.0005
C-2 PYR	0.0063	0.0066	0.0032	nd (T)	nd (T)	nd (T)
B(a)ANT	0.0007	0.0015	0.0052	0.0016	0.0004	0.0010
CHRY	0.0030	0.0037	0.0077	0.0024	0.0009	0.0016
C-1 CHRY	0.0070	0.0080	0.0060	nd (T)	nd (T)	nd (T)
C-2 CHRY	0.0100	0.0140	0.0056	nd (T)	nd (T)	nd (T)
B(b)F**	0.0005	0.0014	0.0027	0.0014	0.0004	0.0009
B(e)P	0.0008	0.0021	0.0043	0.0013	0.0003	0.0008
B(a)P	0.0005	0.0018	0.0031	0.0018	0.0004	0.0011
PERYL	0.0010	0.0025	0.0009	0.0014	0.0005	0.0010
INDPYR	nd (T)	0.0015	0.0017	0.0005	nd (T)	0.0002
DIBENZ	0.0001	0.0018	0.0036	0.0007	nd (T)	0.0004
BENZPER	nd (T)	0.0013	0.0004	0.0005	nd (T)	0.0003
Total Target AH:	0.1100	0.1200	0.2900	0.0170	0.0095	0.0130
FFPI***	0.8692	0.7892	0.7925	0.2017	0.4338	0.2888
C3Da/C3Db	-	-	-	-	-	-
C3Pa/Pb	-	-	-	-	-	-
C1PYa/PYb	-	-	-	-	-	-
C1CYa/CYb	-	-	-	-	-	-
NOR/HOP	-	-	-	-	-	-
C3D/C3P	-	-	-	-	-	-
nC-17/pristane	-	-	-	-	-	-
nC-18/phytane	-	-	-	-	-	-
% Dry Wt	-	46.00	52.00	53.00	-	53.00
TPH (ppt)	-	-	-	-	-	-

MS FILE	ED4360F	ED4356C	ED5097F	AVERAGE (2)	ED4361F	ED4355C
LSU ID	N4210-040	N4210-030	N4210-030R	N4210-030X	N4210-047	N4210-027
SAMPLE ID	94072209	94072002	94072002	94072002	94072304	94072117
n=*	66	49	49	49	42	42
LOCATION	Crab Bay	Crafton Is.	Crafton Is.	Crafton Is.	Death Marsh	Disk Is.
B/CLASS: EL	M	M	M	M	M	M
B/CLASS: CAT	1	2	2	2	2	3
B/CLASS: HAB	Rocky	Mixed	Mixed	Mixed	Mixed	Mixed
GEO/CLASS:	SSBB?	PB/TF	PB/TF	PB/TF	Unclassified	Unclassified
EXPOSURE INDEX	HS/SH	HS/SH	HS/SH	HS/SH	--	--
COMMENTS:	--	--	--	--	@ Bay of Isles	Cleaning Site
TRENCH,DEPTH:	--	--	--	--	--	--
TYPE:	Mussel	Mussel	Mussel	Mussel	Mussel	Mussel
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	0.0030	0.0009
C-3 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	0.0037	0.0026
C-4 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	0.0057	0.0049
FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 FLU	nd (T)	nd (T)	nd (T)	nd (T)	0.0057	0.0054
C-2 FLU	nd (T)	nd (T)	nd (T)	nd (T)	0.0180	0.0068
C-3 FLU	nd (T)	nd (T)	nd (T)	nd (T)	0.0590	0.0150
DBT	nd (T)	0.0012	nd (T)	0.0006	0.0004	0.0005
C-1 DBT	nd (T)	nd (T)	nd (T)	nd (T)	0.0025	0.0024
C-2 DBT	nd (T)	nd (T)	nd (T)	nd (T)	0.0140	0.0140
C-3 DBT	nd (T)	nd (T)	nd (T)	nd (T)	0.0250	0.0220
PHEN	0.0005	0.0009	0.0001	0.0005	0.0008	0.0005
C-1 PHEN	nd (T)	nd (T)	nd (T)	nd (T)	0.0065	0.0020
C-2 PHEN	nd (T)	nd (T)	nd (T)	nd (T)	0.0210	0.0140
C-3 PHEN	nd (T)	nd (T)	nd (T)	nd (T)	0.0490	0.0280
ANT	nd (T)	0.0003	nd (T)	0.0001	0.0003	nd (T)
NBTP	nd (T)	nd (T)	nd (T)	nd (T)	0.0055	0.0028
C-1 NBTP	nd (T)	nd (T)	nd (T)	nd (T)	0.0270	0.0110
C-2 NBTP	nd (T)	nd (T)	nd (T)	nd (T)	0.0450	0.0150
C-3 NBTP	nd (T)	nd (T)	nd (T)	nd (T)	0.0350	0.0130
FLURANT	0.0003	0.0004	nd (T)	0.0002	0.0008	nd (T)
PYR	0.0001	0.0004	nd (T)	0.0002	0.0010	0.0005
C-1 PYR	nd (T)	nd (T)	nd (T)	nd (T)	0.0110	0.0046
C-2 PYR	nd (T)	nd (T)	nd (T)	nd (T)	0.0370	0.0110
B(a)ANT	0.0004	0.0032	0.0001	0.0016	0.0014	0.0003
CHRY	0.0008	0.0036	0.0008	0.0022	0.0190	0.0069
C-1 CHRY	nd (T)	0.0038	nd (T)	0.0019	0.0410	0.0110
C-2 CHRY	nd (T)	0.0063	nd (T)	0.0032	0.0480	0.0150
B(b)F**	0.0003	0.0029	0.0005	0.0017	0.0014	0.0006
B(e)P	0.0003	0.0032	0.0002	0.0017	0.0035	0.0016
B(a)P	0.0005	0.0048	0.0001	0.0025	0.0009	0.0008
PERYL	nd (T)	0.0030	0.0004	0.0017	0.0014	0.0003
INDPYR	nd (T)	0.0027	nd (T)	0.0014	nd (T)	0.0004
DIBENZ	nd (T)	0.0028	nd (T)	0.0014	0.0004	0.0007
BENZPER	nd (T)	0.0027	nd (T)	0.0014	nd (T)	0.0004
Total Target AH:	0.0030	0.0420	0.0022	0.0220	0.4900	0.1000
FFPI***	0.0818	0.2336	0.0227	0.2238	0.8792	0.9001
C3Da/C3Db	-	-	-	-	-	-
C3Pa/Pb	-	-	-	-	-	-
C1PYa/PYb	-	-	-	-	-	-
C1CYa/CYb	-	-	-	-	-	-
NOR/HOP	-	-	-	-	-	-
C3D/C3P	-	-	-	-	-	-
nC-17/pristane	-	-	-	-	-	-
nC-18/phytane	-	-	-	-	-	-
% Dry Wt	52.00	49.00	-	49.00	31.00	42.00
TPH (ppt)	-	-	-	-	-	-

MS FILE	ED5003G	ED5099H	AVERAGE (2)	ED4356F	ED5099E	AVERAGE (2)
LSU ID	N4210-007	N4210-007R	N4210-007X	N4210-031	N4210-031R	N4210-031X
SAMPLE ID	94072113	94072113	94072113	94072114	94072114	94072114
n=*	66	66	66	45	45	45
LOCATION	Herring Bay	Herring Bay	Herring Bay	Herring Bay	Herring Bay	Herring Bay
B/CLASS: EL	M	M	M	M	M	M
B/CLASS: CAT	2	2	2	2	2	2
B/CLASS: HAB	Mixed	Mixed	Mixed	Rocky	Rocky	Rocky
GEO/CLASS:	RRS	RRS	RRS	RRS	RRS	RRS
EXPOSURE INDEX	HS/SH	HS/SH	HS/SH	HS/SH	HS/SH	HS/SH
COMMENTS:	--	--	--	--	--	--
TRENCH,DEPTH:	--	--	--	--	--	--
TYPE:	Mussel	Mussel	Mussel	Mussel	Mussel	Mussel
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-3 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-4 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-3 FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
DBT	0.0001	nd (T)	nd (T)	nd (T)	0.0005	0.0002
C-1 DBT	0.0002	nd (T)	0.0001	nd (T)	nd (T)	nd (T)
C-2 DBT	nd (T)	nd (T)	0.0003	nd (T)	nd (T)	nd (T)
C-3 DBT	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
PHEN	0.0005	0.0008	0.0007	nd (T)	0.0005	0.0003
C-1 PHEN	0.0009	0.0005	0.0007	nd (T)	0.0007	0.0004
C-2 PHEN	0.0007	nd (T)	0.0003	nd (T)	0.0007	0.0004
C-3 PHEN	0.0008	nd (T)	0.0004	nd (T)	0.0008	0.0004
ANT	nd (T)	0.0001	0.0000	nd (T)	0.0004	0.0002
NBTP	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NBTP	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 NBTP	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-3 NBTP	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
FLURANT	nd (T)	nd (T)	nd (T)	nd (T)	0.0002	0.0001
PYR	nd (T)	nd (T)	nd (T)	nd (T)	0.0003	0.0001
C-1 PYR	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 PYR	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
B(a)ANT	nd (T)	0.0002	0.0001	0.0003	0.0013	0.0008
CHRY	0.0003	0.0002	0.0003	0.0011	0.0016	0.0014
C-1 CHRY	nd (T)	nd (T)	nd (T)	nd (T)	0.0011	0.0006
C-2 CHRY	nd (T)	nd (T)	nd (T)	nd (T)	0.0016	0.0008
B(b)F**	nd (T)	0.0001	nd (T)	0.0006	0.0024	0.0015
B(e)P	nd (T)	nd (T)	nd (T)	0.0006	0.0012	0.0009
B(a)P	nd (T)	nd (T)	nd (T)	0.0012	0.0013	0.0013
PERYL	nd (T)	nd (T)	nd (T)	0.0004	0.0011	0.0007
INDPYR	nd (T)	nd (T)	nd (T)	0.0003	0.0005	0.0004
DIBENZ	nd (T)	nd (T)	nd (T)	0.0004	0.0005	0.0005
BENZPER	nd (T)	nd (T)	nd (T)	0.0004	0.0006	0.0005
Total Target AH:	0.0034	0.0019	0.0029	0.0054	0.0170	0.0110
FFPI***	0.7135	0.3493	0.6274	0.0000	0.2765	0.2109
C3Da/C3Db	-	-	-	-	-	-
C3Pa/Pb	-	-	-	-	-	-
C1PYa/PYb	-	-	-	-	-	-
C1CYa/CYb	-	-	-	-	-	-
NOR/HOP	-	-	-	-	-	-
C3D/C3P	-	-	-	-	-	-
nC-17/pristane	-	-	-	-	-	-
nC-18/phytane	-	-	-	-	-	-
% Dry Wt	51.00	-	51.00	44.00	-	44.00
TPH (ppt)	-	-	-	-	-	-

MS FILE	ED4363C	ED4356E	ED5099C	AVERAGE (2)	ED4361E	ED4360C
LSU ID	N4210-021	N4210-029	N4210-029R	N4210-029X	N4210-045	N4210-038
SAMPLE ID	94072118	94072108	94072108	94072108	94072402	94072404
n=*	39	40	40	40	98	66
LOCATION	Ingot	Mussel Beach S.	Mussel Beach S.	Mussel Beach S.	N-03 Smith	N-04 Smith
B/CLASS: EL	M	M	M	M	M	M
B/CLASS: CAT	2	2	2	2	3	3
B/CLASS: HAB	Boulder/Cob	Mixed	Mixed	Mixed	Rocky	Rocky
GEO/CLASS:	Unclassified	PB/TF	PB/TF	PB/TF	C/BPB	C/BPB
EXPOSURE INDEX	EX	MS	MS	MS	HE	HE
COMMENTS:	--	--	--	--	On RPI Trans.	On RPI Trans.
TRENCH,DEPTH:	--	--	--	--	--	--
TYPE:	Mussel	Mussel	Mussel	Mussel	Mussel	Mussel
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 NAPH	0.0012	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-3 NAPH	0.0018	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-4 NAPH	0.0014	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 FLU	0.0024	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 FLU	0.0034	nd (T)	nd (T)	nd (T)	0.0010	nd (T)
C-3 FLU	0.0047	nd (T)	nd (T)	nd (T)	0.0031	nd (T)
DBT	0.0003	nd (T)	nd (T)	nd (T)	0.0001	0.0004
C-1 DBT	0.0005	nd (T)	nd (T)	nd (T)	0.0003	nd (T)
C-2 DBT	0.0033	nd (T)	nd (T)	nd (T)	0.0019	nd (T)
C-3 DBT	0.0069	nd (T)	nd (T)	nd (T)	0.0010	nd (T)
PHEN	0.0012	0.0005	0.0008	0.0007	0.0003	0.0011
C-1 PHEN	0.0024	nd (T)	nd (T)	nd (T)	0.0013	0.0014
C-2 PHEN	0.0064	nd (T)	nd (T)	nd (T)	0.0029	0.0020
C-3 PHEN	0.0150	nd (T)	nd (T)	nd (T)	0.0058	0.0033
ANT	0.0004	nd (T)	0.0002	0.0001	nd (T)	0.0002
NBTP	0.0022	nd (T)	0.0004	0.0002	0.0005	0.0004
C-1 NBTP	0.0083	nd (T)	nd (T)	nd (T)	0.0028	nd (T)
C-2 NBTP	0.0120	nd (T)	nd (T)	nd (T)	0.0036	nd (T)
C-3 NBTP	0.0094	nd (T)	nd (T)	nd (T)	0.0032	nd (T)
FLURANT	0.0005	nd (T)	0.0003	0.0001	nd (T)	0.0007
PYR	0.0005	nd (T)	0.0003	0.0002	nd (T)	0.0006
C-1 PYR	0.0035	nd (T)	nd (T)	nd (T)	0.0013	nd (T)
C-2 PYR	0.0088	nd (T)	nd (T)	nd (T)	0.0030	nd (T)
B(a)ANT	0.0047	0.0010	0.0021	0.0016	0.0002	0.0016
CHRY	0.0055	0.0020	0.0023	0.0022	0.0017	0.0023
C-1 CHRY	0.0110	0.0036	nd (T)	0.0018	0.0036	0.0029
C-2 CHRY	0.0140	0.0064	nd (T)	0.0032	0.0057	0.0065
B(b)F**	0.0012	0.0009	0.0033	0.0021	0.0003	0.0016
B(e)P	0.0014	0.0010	0.0017	0.0013	0.0004	0.0017
B(a)P	0.0011	0.0019	0.0019	0.0019	0.0005	0.0024
PERYL	0.0007	nd (T)	0.0019	0.0010	nd (T)	0.0011
INDPYR	0.0005	0.0007	0.0009	0.0008	nd (T)	0.0008
DIBENZ	0.0006	0.0007	0.0009	0.0008	nd (T)	0.0009
BENZPER	0.0005	nd (T)	0.0010	0.0005	nd (T)	0.0008
Total Target AH:	0.1400	0.0190	0.0180	0.0180	0.0500	0.0330
FFPI***	0.8061	0.4521	0.0461	0.2520	0.8743	0.4681
C3Da/C3Db	-	-	-	-	-	-
C3Pa/Pb	-	-	-	-	-	-
C1PYa/PYb	-	-	-	-	-	-
C1CYa/CYb	-	-	-	-	-	-
NOR/HOP	-	-	-	-	-	-
C3D/C3P	-	-	-	-	-	-
nC-17/pristane	-	-	-	-	-	-
nC-18/phytane	-	-	-	-	-	-
% Dry Wt	50.00	52.00	-	52.00	47.00	58.00
TPH (ppt)	-	-	-	-	-	-

MS FILE	ED4361C	ED4362D	ED4362E	ED5005C	ED5097D	AVERAGE (4)
LSU ID	N4210-041	N4210-013	N4210-013Dup	N4210-013DupR	N4210-013R	N4210-013X
SAMPLE ID	94072214	94072501	94072501	94072501	94072501	94072501
n=*	42	94	94	94	94	94
LOCATION	N-05 Snug	N-07 Knight Is.	N-07 Knight Is.	N-07 Knight Is.	N-07 Knight Is.	N-07 Knight Is.
B/CLASS: EL	M	M	M	M	M	M
B/CLASS: CAT	2	3	3	3	3	3
B/CLASS: HAB	Rocky	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified
GEO/CLASS:	RRS	C/BPB	C/BPB	C/BPB	C/BPB	C/BPB
EXPOSURE INDEX	HS/SH	EX	EX	EX	EX	EX
COMMENTS:	On RPI Trans.	On RPI Trans.	On RPI Trans.	On RPI Trans.	On RPI Trans.	On RPI Trans.
TRENCH,DEPTH:	--	--	--	--	--	--
TYPE:	Mussel	Mussel	Mussel	Mussel	Mussel	Mussel
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-3 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-4 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-3 FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
DBT	0.0003	0.0003	nd (T)	0.0010	0.0004	0.0005
C-1 DBT	nd (T)	0.0006	nd (T)	0.0002	0.0009	0.0004
C-2 DBT	nd (T)	0.0016	nd (T)	0.0007	0.0022	0.0010
C-3 DBT	nd (T)	0.0011	nd (T)	0.0015	nd (T)	0.0005
PHEN	0.0007	0.0035	nd (T)	0.0042	0.0047	0.0030
C-1 PHEN	nd (T)	0.0020	0.0002	0.0037	0.0027	0.0020
C-2 PHEN	nd (T)	0.0027	0.0002	0.0030	0.0029	0.0020
C-3 PHEN	nd (T)	0.0036	0.0002	0.0031	0.0041	0.0025
ANT	0.0004	0.0008	nd (T)	0.0014	0.0009	0.0008
NBTP	nd (T)	0.0009	0.0001	0.0005	0.0014	0.0007
C-1 NBTP	nd (T)	nd (T)	0.0001	nd (T)	nd (T)	nd (T)
C-2 NBTP	nd (T)	nd (T)	0.0001	nd (T)	nd (T)	nd (T)
C-3 NBTP	nd (T)	nd (T)	0.0002	nd (T)	nd (T)	nd (T)
FLURANT	0.0004	0.0032	nd (T)	0.0039	0.0037	0.0025
PYR	0.0003	0.0019	nd (T)	0.0023	0.0020	0.0014
C-1 PYR	nd (T)	0.0030	0.0003	0.0031	0.0035	0.0025
C-2 PYR	nd (T)	0.0028	0.0002	0.0019	0.0023	0.0015
B(a)ANT	0.0012	0.0031	0.0000	0.0042	0.0028	0.0023
CHRY	0.0018	0.0035	0.0002	0.0050	0.0036	0.0029
C-1 CHRY	nd (T)	0.0024	0.0003	0.0027	0.0023	0.0018
C-2 CHRY	nd (T)	0.0030	0.0004	0.0025	0.0016	0.0015
B(b)F**	0.0012	0.0004	nd (T)	0.0019	0.0013	0.0011
B(e)P	0.0012	0.0006	nd (T)	0.0016	0.0005	0.0007
B(a)P	0.0014	0.0006	nd (T)	0.0016	0.0003	0.0006
PERYL	0.0012	0.0003	nd (T)	0.0015	0.0005	0.0007
INDPYR	0.0008	nd (T)	nd (T)	0.0008	nd (T)	0.0003
DIBENZ	0.0007	0.0001	nd (T)	0.0010	nd (T)	0.0003
BENZPER	0.0007	0.0001	nd (T)	0.0009	nd (T)	0.0003
Total Target AH:	0.0120	0.0420	0.0025	0.0540	0.0450	0.0340
FFPI***	0.0491	0.5240	0.7402	0.3927	0.5030	0.4499
C3Da/C3Db	-	-	-	-	-	-
C3Pa/Pb	-	-	-	-	-	-
C1PYa/PYb	-	-	-	-	-	-
C1CYa/CYb	-	-	-	-	-	-
NOR/HOP	-	-	-	-	-	-
C3D/C3P	-	-	-	-	-	-
nC-17/pristane	-	-	-	-	-	-
nC-18/phytane	-	-	-	-	-	-
% Dry Wt	46.00	78.00	48.00	-	-	63.00
TPH (ppt)	-	-	-	-	-	-

MS FILE	ED4361D	ED5003E	ED5003F	ED5099G	AVERAGE (3)	ED4356D
LSU ID	N4210-042	N4210-006	N4210-006Dup	N4210-006DupR	N4210-006X	N4210-028
SAMPLE ID	94072502	94072115	94072115	94072115	94072115	94072302
n=*	45	67	67	67	67	49
LOCATION	N-10 Herring B.	N-13 Herring B.	N-13 Herring B.	N-13 Herring B.	N-13 Herring B.	N-15 LaTouche
B/CLASS: EL	M	M	M	M	M	M
B/CLASS: CAT	3	2	2	2	2	3
B/CLASS: HAB	Unclassified	Rocky	Rocky	Rocky	Rocky	Boulder/Cob
GEO/CLASS:	SRS	RRS	RRS	RRS	RRS	C/BPB
EXPOSURE INDEX	ME	HS/SH	HS/SH	HS/SH	HS/SH	HE
COMMENTS:	On RPI Trans.	On RPI Trans.	On RPI Trans.	On RPI Trans.	On RPI Trans.	On RPI Trans.
TRENCH,DEPTH:	--	--	--	--	--	--
TYPE:	Mussel	Mussel	Mussel	Mussel	Mussel	Mussel
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-3 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-4 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 FLU	nd (T)	nd (T)	0.0013	nd (T)	0.0004	nd (T)
C-3 FLU	nd (T)	nd (T)	0.0029	nd (T)	0.0010	nd (T)
DBT	0.0002	0.0001	0.0001	nd (T)	0.0001	nd (T)
C-1 DBT	0.0002	nd (T)	nd (T)	nd (T)	0.0000	nd (T)
C-2 DBT	0.0013	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-3 DBT	0.0017	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
PHEN	0.0009	0.0008	0.0003	0.0009	0.0007	0.0018
C-1 PHEN	0.0014	0.0012	0.0013	0.0015	0.0013	0.0017
C-2 PHEN	0.0021	0.0015	0.0015	0.0018	0.0016	0.0020
C-3 PHEN	0.0043	0.0023	0.0030	0.0042	0.0032	0.0072
ANT	0.0002	nd (T)	nd (T)	0.0001	nd (T)	0.0004
NBTP	nd (T)	0.0003	0.0003	0.0006	0.0004	0.0007
C-1 NBTP	nd (T)	0.0011	0.0017	0.0030	0.0019	0.0039
C-2 NBTP	nd (T)	0.0019	0.0027	0.0046	0.0031	0.0052
C-3 NBTP	nd (T)	0.0023	0.0034	0.0061	0.0039	0.0041
FLURANT	0.0003	nd (T)	nd (T)	0.0001	nd (T)	0.0011
PYR	0.0003	nd (T)	nd (T)	0.0001	nd (T)	0.0007
C-1 PYR	nd (T)	0.0004	0.0014	nd (T)	0.0006	nd (T)
C-2 PYR	nd (T)	0.0017	0.0038	nd (T)	0.0018	nd (T)
B(a)ANT	0.0004	0.0001	0.0007	0.0002	0.0003	0.0052
CHRY	0.0014	0.0012	0.0017	0.0018	0.0016	0.0061
C-1 CHRY	0.0023	0.0031	0.0040	0.0036	0.0036	0.0089
C-2 CHRY	0.0032	0.0067	0.0059	0.0057	0.0061	0.0130
B(b)F**	0.0002	0.0001	0.0001	0.0007	0.0003	0.0039
B(e)P	0.0003	0.0004	0.0004	0.0007	0.0005	0.0032
B(a)P	0.0002	0.0004	0.0004	0.0004	0.0004	0.0039
PERYL	0.0001	nd (T)	nd (T)	nd (T)	nd (T)	0.0014
INDPYR	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	0.0016
DIBENZ	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	0.0017
BENZPER	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	0.0009
Total Target AH:	0.0210	0.0260	0.0370	0.0370	0.0330	0.0790
FFPI***	0.7314	0.8069	0.8148	0.8066	0.8110	0.5380
C3Da/C3Db	-	-	-	-	-	-
C3Pa/Pb	-	-	-	-	-	-
C1PYa/PYb	-	-	-	-	-	-
C1CYa/CYb	-	-	-	-	-	-
NOR/HOP	-	-	-	-	-	-
C3D/C3P	-	-	-	-	-	-
nC-17/pristane	-	-	-	-	-	-
nC-18/phytane	-	-	-	-	-	-
% Dry Wt	56.00	40.00	-	-	40.00	53.00
TPH (ppt)	-	-	-	-	-	-

MS FILE	ED4355E	ED5005D	ED5097E	AVERAGE (4)	ED4363D	ED4362G
LSU ID	N4210-028Dup	N4210-028R	N4210-028R	N4210-028X	N4210-022Dup	N4210-017
SAMPLE ID	94072302	94072302	94072302	94072302	94072601	94072110
n=*	49	49	49	49	140	52
LOCATION	N-15 LaTouche	N-15 LaTouche	N-15 LaTouche	N-15 LaTouche	N-17 Perry	NW Bay Islet
B/CLASS: EL	M	M	M	M	M	M
B/CLASS: CAT	3	3	3	3	3	3
B/CLASS: HAB	Boulder/Cob	Boulder/Cob	Boulder/Cob	Boulder/Cob	Unclassified	Rocky
GEO/CLASS:	C/BPB	C/BPB	C/BPB	C/BPB	C/BPB	BEDROCK
EXPOSURE INDEX	HE	HE	HE	HE	HE	HS/SH
COMMENTS:	On RPI Trans.	On RPI Trans.	On RPI Trans.	On RPI Trans.	On RPI Trans.	--
TRENCH,DEPTH:	--	--	--	--	--	--
TYPE:	Mussel	Mussel	Mussel	Mussel	Mussel	Mussel
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-3 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-4 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
FLU	nd (T)	nd (T)	0.0005	0.0001	nd (T)	nd (T)
C-1 FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	0.0013
C-2 FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	0.0021
C-3 FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	0.0039
DBT	nd (T)	0.0004	nd (T)	0.0001	0.0001	0.0001
C-1 DBT	nd (T)	0.0002	nd (T)	nd (T)	0.0002	0.0002
C-2 DBT	nd (T)	0.0015	nd (T)	0.0004	0.0018	0.0012
C-3 DBT	nd (T)	0.0016	nd (T)	0.0004	0.0028	0.0017
PHEN	0.0016	0.0014	0.0017	0.0016	0.0004	0.0009
C-1 PHEN	0.0023	0.0016	0.0015	0.0018	0.0013	0.0017
C-2 PHEN	0.0035	0.0024	0.0027	0.0027	0.0023	0.0025
C-3 PHEN	0.0050	0.0040	0.0056	0.0055	0.0055	0.0043
ANT	0.0002	0.0004	0.0004	0.0004	0.0001	nd (T)
NBTP	nd (T)	0.0007	0.0009	0.0006	0.0007	0.0006
C-1 NBTP	nd (T)	0.0035	0.0042	0.0029	0.0030	0.0038
C-2 NBTP	nd (T)	0.0037	0.0065	0.0039	0.0052	0.0059
C-3 NBTP	nd (T)	0.0034	0.0044	0.0030	0.0044	0.0080
FLURANT	0.0011	0.0012	0.0010	0.0011	0.0004	0.0001
PYR	0.0007	0.0007	0.0008	0.0007	0.0002	0.0001
C-1 PYR	nd (T)	0.0019	nd (T)	0.0005	0.0016	0.0017
C-2 PYR	nd (T)	0.0029	nd (T)	0.0007	0.0041	0.0027
B(a)ANT	0.0045	0.0018	0.0022	0.0034	0.0014	0.0002
CHRY	0.0050	0.0024	0.0031	0.0042	0.0026	0.0026
C-1 CHRY	0.0063	0.0034	0.0050	0.0059	0.0051	0.0064
C-2 CHRY	0.0070	0.0032	0.0056	0.0072	0.0093	0.0110
B(b)F**	0.0026	0.0010	0.0024	0.0025	0.0004	0.0006
B(e)P	0.0021	0.0008	0.0008	0.0017	0.0008	0.0014
B(a)P	0.0025	0.0007	0.0007	0.0020	0.0006	0.0009
PERYL	0.0012	0.0005	0.0006	0.0009	0.0002	nd (T)
INDPYR	0.0006	0.0002	nd (T)	0.0006	0.0001	nd (T)
DIBENZ	0.0005	0.0002	nd (T)	0.0006	0.0001	0.0003
BENZPER	0.0005	0.0002	nd (T)	0.0004	0.0000	nd (T)
Total Target AH:	0.0470	0.0460	0.0500	0.0560	0.0550	0.0660
FFPI***	0.4359	0.6888	0.6829	0.5782	0.7979	0.8279
C3Da/C3Db	-	-	-	-	-	-
C3Pa/Pb	-	-	-	-	-	-
C1PYa/PYb	-	-	-	-	-	-
C1CYa/CYb	-	-	-	-	-	-
NOR/HOP	-	-	-	-	-	-
C3D/C3P	-	-	-	-	-	-
nC-17/pristane	-	-	-	-	-	-
nC-18/phytane	-	-	-	-	-	-
% Dry Wt	-	-	-	53.00	38.00	45.00
TPH (ppt)	-	-	-	-	-	-

MS FILE	ED4357C	ED5099F	AVERAGE (2)	ED4361G	ED5097C	ED4361H
LSU ID	N4210-034	N4210-034R	N4210-034X	N4210-011	N4210-011	N4210-011Dup
SAMPLE ID	94072109	94072109	94072109	94072406	94072406	94072406
n=*	57	57	57	53	53	53
LOCATION	NW Bay WArm	NW Bay WArm	NW Bay WArm	Outside Bay	Outside Bay	Outside Bay
B/CLASS: EL	M	M	M	M	M	M
B/CLASS: CAT	3	3	3	1	1	1
B/CLASS: HAB	Mixed	Mixed	Mixed	Mixed	Mixed	Mixed
GEO/CLASS:	BB	BB	BB	Unclassified	Unclassified	Unclassified
EXPOSURE INDEX	MS	MS	MS	HS/SH	HS/SH	HS/SH
COMMENTS:	--	--	--	--	--	--
TRENCH,DEPTH:	--	--	--	--	--	--
TYPE:	Mussel	Mussel	Mussel	Mussel	Mussel	Mussel
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	0.0002
C-1 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-3 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-4 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-3 FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
DBT	0.0003	nd (T)	0.0002	nd (T)	0.0003	nd (T)
C-1 DBT	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 DBT	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-3 DBT	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
PHEN	0.0007	0.0006	0.0007	0.0005	0.0009	0.0009
C-1 PHEN	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 PHEN	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-3 PHEN	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
ANT	0.0002	nd (T)	0.0001	0.0001	0.0002	0.0001
NBTP	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NBTP	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 NBTP	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-3 NBTP	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
FLURANT	0.0004	0.0001	0.0003	nd (T)	0.0002	0.0002
PYR	0.0003	0.0002	0.0002	nd (T)	0.0002	0.0001
C-1 PYR	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 PYR	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
B(a)ANT	0.0016	0.0003	0.0010	0.0005	0.0006	0.0001
CHRY	0.0023	0.0007	0.0015	0.0003	0.0007	0.0002
C-1 CHRY	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 CHRY	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
B(b)F**	0.0014	0.0008	0.0011	nd (T)	0.0012	nd (T)
B(e)P	0.0018	0.0005	0.0012	nd (T)	0.0006	nd (T)
B(a)P	0.0020	0.0003	0.0011	nd (T)	0.0006	nd (T)
PERYL	0.0017	nd (T)	0.0009	nd (T)	0.0007	nd (T)
INDPYR	0.0012	nd (T)	0.0006	nd (T)	0.0003	nd (T)
DIBENZ	0.0014	nd (T)	0.0007	nd (T)	0.0003	nd (T)
BENZPER	0.0012	nd (T)	0.0006	nd (T)	0.0002	nd (T)
Total Target AH:	0.0160	0.0035	0.0100	0.0014	0.0070	0.0018
FFPI***	0.0369	0.0852	0.0475	0.1940	0.0986	0.3606
C3Da/C3Db	-	-	-	-	-	-
C3Pa/Pb	-	-	-	-	-	-
C1PYa/PYb	-	-	-	-	-	-
C1CYa/CYb	-	-	-	-	-	-
NOR/HOP	-	-	-	-	-	-
C3D/C3P	-	-	-	-	-	-
nC-17/pristane	-	-	-	-	-	-
nC-18/phytane	-	-	-	-	-	-
% Dry Wt	51.00	43.00	47.00	50.00	-	-
TPH (ppt)	-	-	-	-	-	-

MS FILE	AVERAGE (3)	ED4355D	ED4362C	ED5003H	ED5099I	AVERAGE (2)
LSU ID	N4210-011X	N4210-026	N4210-012	N4210-008	N4210-008R	N4210-008X
SAMPLE ID	94072406	94072201	94072203	94072205	94072205	94072205
n=*	53	51	69	63	63	63
LOCATION	Outside Bay	Shelter Bay	Sleepy Bay	Sleepy/PES Site	Sleepy/PES Site	Sleepy/PES Site
B/CLASS: EL	M	M	M	M	M	M
B/CLASS: CAT	1	3	3	3	3	3
B/CLASS: HAB	Mixed	Mixed	Mixed	Boulder/Cob	Boulder/Cob	Boulder/Cob
GEO/CLASS:	Unclassified	BB	BB	BB	BB	BB
EXPOSURE INDEX	HS/SH	HS/SH	EX	EX	EX	EX
COMMENTS:	--	--	--	PES Test Site	PES Test Site	PES Test Site
TRENCH,DEPTH:	--	--	--	--	--	--
TYPE:	Mussel	Mussel	Mussel	Mussel	Mussel	Mussel
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	0.0001	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 NAPH	nd (T)	nd (T)	0.0024	0.0029	0.0027	0.0028
C-3 NAPH	nd (T)	nd (T)	0.0013	0.0069	0.0068	0.0069
C-4 NAPH	nd (T)	nd (T)	nd (T)	0.0120	0.0110	0.0120
FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 FLU	nd (T)	nd (T)	nd (T)	0.0024	0.0042	0.0033
C-2 FLU	nd (T)	nd (T)	nd (T)	0.0071	0.0091	0.0081
C-3 FLU	nd (T)	nd (T)	nd (T)	0.0220	0.0240	0.0230
DBT	0.0001	0.0002	0.0003	0.0003	0.0004	0.0003
C-1 DBT	nd (T)	nd (T)	0.0003	0.0033	0.0057	0.0045
C-2 DBT	nd (T)	nd (T)	0.0008	0.0180	0.0300	0.0240
C-3 DBT	nd (T)	nd (T)	0.0006	0.0350	0.0550	0.0450
PHEN	0.0008	0.0013	0.0006	0.0009	0.0015	0.0012
C-1 PHEN	nd (T)	0.0020	0.0033	0.0076	0.0090	0.0083
C-2 PHEN	nd (T)	0.0016	0.0013	0.0260	0.0310	0.0290
C-3 PHEN	nd (T)	0.0029	0.0011	0.0470	0.0600	0.0540
ANT	0.0001	0.0002	0.0002	nd (T)	nd (T)	nd (T)
NBTP	nd (T)	nd (T)	0.0005	0.0041	0.0066	0.0054
C-1 NBTP	nd (T)	nd (T)	0.0006	0.0200	0.0320	0.0260
C-2 NBTP	nd (T)	nd (T)	0.0014	0.0240	0.0380	0.0310
C-3 NBTP	nd (T)	nd (T)	0.0015	0.0140	0.0210	0.0180
FLURANT	0.0001	0.0004	0.0002	0.0004	0.0008	0.0006
PYR	0.0001	0.0003	0.0001	0.0006	0.0011	0.0008
C-1 PYR	nd (T)	nd (T)	nd (T)	0.0064	0.0078	0.0071
C-2 PYR	nd (T)	nd (T)	nd (T)	0.0170	0.0180	0.0180
B(a)ANT	0.0004	0.0008	0.0003	0.0010	0.0008	0.0009
CHRY	0.0004	0.0013	0.0008	0.0120	0.0130	0.0130
C-1 CHRY	nd (T)	nd (T)	0.0016	0.0280	0.0310	0.0300
C-2 CHRY	nd (T)	nd (T)	0.0036	0.0220	0.0320	0.0270
B(b)F**	0.0004	0.0005	0.0005	0.0005	0.0018	0.0012
B(e)P	0.0002	0.0006	0.0007	0.0018	0.0005	0.0012
B(a)P	0.0002	0.0009	0.0011	0.0004	nd (T)	0.0002
PERYL	0.0002	0.0004	0.0005	nd (T)	nd (T)	nd (T)
INDPYR	0.0001	0.0003	0.0004	nd (T)	nd (T)	nd (T)
DIBENZ	0.0001	0.0004	0.0004	nd (T)	nd (T)	nd (T)
BENZPER	0.0001	0.0003	0.0005	nd (T)	nd (T)	nd (T)
Total Target AH:	0.0034	0.0140	0.0270	0.3400	0.4500	0.4000
FFPI***	0.1559	0.4450	0.6871	0.8891	0.9063	0.8977
C3Da/C3Db	-	-	-	-	-	-
C3Pa/Pb	-	-	-	-	-	-
C1PYa/PYb	-	-	-	-	-	-
C1CYa/CYb	-	-	-	-	-	-
NOR/HOP	-	-	-	-	-	-
C3D/C3P	-	-	-	-	-	-
nC-17/pristane	-	-	-	-	-	-
nC-18/phytane	-	-	-	-	-	-
% Dry Wt	50.00	51.00	45.00	49.00	-	49.00
TPH (ppt)	-	-	-	-	-	-

MS FILE	ED4346D	ED4346E	ED5005H	AVERAGE (3)	ED4362H	ED4357F
LSU ID	N4210-024	N4210-024Dup	N4210-024R	N4210-024X	N4210-018	N4210-037
SAMPLE ID	94072204	94072204	94072204	94072204	94072401	94072403
n=*	51	51	51	51	45	78
LOCATION	Sleepy/PES Site	Sleepy/PES Site	Sleepy/PES Site	Sleepy/PES Site	Smith Is, N3	Smith Is, N3
B/CLASS: EL	M	M	M	M	M	M
B/CLASS: CAT	3	3	3	3	3	3
B/CLASS: HAB	Boulder/Cob	Boulder/Cob	Boulder/Cob	Boulder/Cob	Boulder/Cob	Boulder/Cob
GEO/CLASS:	BB	BB	BB	BB	C/BPB	C/BPB
EXPOSURE INDEX	EX	EX	EX	EX	HE	HE
COMMENTS:	PES Control	PES Control	PES Control	PES Control	E. Rock	W. Rock
TRENCH,DEPTH:	--	--	--	--	--	--
TYPE:	Mussel	Mussel	Mussel	Mussel	Mussel	Mussel
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-3 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-4 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 FLU	nd (T)	nd (T)	nd (T)	nd (T)	0.0015	0.0027
C-2 FLU	nd (T)	nd (T)	nd (T)	nd (T)	0.0028	0.0084
C-3 FLU	nd (T)	nd (T)	nd (T)	nd (T)	0.0093	0.0300
DBT	0.0001	0.0001	0.0002	0.0001	0.0001	0.0002
C-1 DBT	0.0002	nd (T)	nd (T)	0.0001	nd (T)	0.0006
C-2 DBT	0.0010	nd (T)	nd (T)	0.0003	nd (T)	0.0030
C-3 DBT	0.0009	nd (T)	nd (T)	0.0003	nd (T)	0.0043
PHEN	0.0001	0.0001	0.0005	0.0002	0.0009	0.0010
C-1 PHEN	0.0010	0.0009	nd (T)	0.0006	0.0018	0.0040
C-2 PHEN	0.0011	0.0011	nd (T)	0.0007	0.0026	0.0068
C-3 PHEN	0.0029	0.0024	0.0047	0.0033	0.0050	0.0140
ANT	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
NBTP	0.0003	nd (T)	0.0004	0.0002	nd (T)	0.0013
C-1 NBTP	0.0012	nd (T)	0.0022	0.0011	0.0010	0.0044
C-2 NBTP	0.0021	nd (T)	0.0032	0.0018	0.0016	0.0064
C-3 NBTP	0.0025	nd (T)	0.0039	0.0021	0.0016	0.0057
FLURANT	0.0001	nd (T)	0.0005	0.0002	nd (T)	nd (T)
PYR	0.0001	nd (T)	0.0003	0.0001	nd (T)	0.0002
C-1 PYR	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	0.0038
C-2 PYR	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	0.0091
B(a)ANT	0.0006	0.0001	0.0003	0.0003	0.0001	0.0017
CHRY	0.0013	0.0004	0.0010	0.0009	0.0007	0.0039
C-1 CHRY	0.0031	0.0011	0.0020	0.0021	nd (T)	0.0096
C-2 CHRY	0.0038	0.0013	0.0038	0.0030	nd (T)	0.0140
B(b)F**	0.0002	nd (T)	nd (T)	0.0001	0.0001	0.0005
B(e)P	0.0006	0.0002	0.0004	0.0004	0.0002	0.0012
B(a)P	0.0012	0.0006	0.0004	0.0007	0.0004	0.0009
PERYL	0.0003	nd (T)	0.0002	0.0002	nd (T)	nd (T)
INDPYR	0.0007	0.0001	nd (T)	0.0003	nd (T)	nd (T)
DIBENZ	0.0006	0.0002	nd (T)	0.0003	nd (T)	nd (T)
BENZPER	0.0005	0.0001	nd (T)	0.0002	nd (T)	nd (T)
Total Target AH:	0.0270	0.0087	0.0240	0.0200	0.0300	0.1400
FFPI***	0.6835	0.6800	0.8173	0.7288	0.9039	0.8722
C3Da/C3Db	-	-	-	-	-	-
C3Pa/Pb	-	-	-	-	-	-
C1PYa/PYb	-	-	-	-	-	-
C1CYa/CYb	-	-	-	-	-	-
NOR/HOP	-	-	-	-	-	-
C3D/C3P	-	-	-	-	-	-
nC-17/pristane	-	-	-	-	-	-
nC-18/phytane	-	-	-	-	-	-
% Dry Wt	38.00	-	-	38.00	48.00	45.00
TPH (ppt)	-	-	-	-	-	-

MS FILE	ED4357G	ED5005F	AVERAGE (3)	ED4357E	ED4360D	ED4360E
LSU ID	N4210-037Dup	N4210-037R	N4210-037X	N4210-036	N4210-039	N4210-039Dup
SAMPLE ID	94072403	94072403	94072403	94072212	94072211	94072211
n=*	78	78	78	43	92	92
LOCATION	Smith Is, N3	Smith Is, N3	Smith Is, N3	Snug Harbor	Snug Harbor	Snug Harbor
B/CLASS: EL	M	M	M	M	M	M
B/CLASS: CAT	3	3	3	2	2	2
B/CLASS: HAB	Boulder/Cob	Boulder/Cob	Boulder/Cob	Mixed	Rocky	Rocky
GEO/CLASS:	C/BPB	C/BPB	C/BPB	RRS	RRS	RRS
EXPOSURE INDEX	HE	HE	HE	HS/SH	HS/SH	HS/SH
COMMENTS:	W. Rock	W. Rock	W. Rock	--	--	--
TRENCH,DEPTH:	--	--	--	--	--	--
TYPE:	Mussel	Mussel	Mussel	Mussel	Mussel	Mussel
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-2 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-3 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-4 NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
FLU	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 FLU	0.0037	0.0028	0.0031	nd (T)	nd (T)	nd (T)
C-2 FLU	0.0078	0.0094	0.0085	nd (T)	nd (T)	nd (T)
C-3 FLU	0.0300	0.0290	0.0300	nd (T)	nd (T)	nd (T)
DBT	0.0001	0.0005	0.0003	nd (T)	0.0001	nd (T)
C-1 DBT	0.0005	0.0006	0.0005	nd (T)	nd (T)	nd (T)
C-2 DBT	0.0028	0.0033	0.0030	nd (T)	nd (T)	nd (T)
C-3 DBT	0.0031	0.0046	0.0040	nd (T)	nd (T)	nd (T)
PHEN	0.0006	0.0014	0.0010	0.0007	0.0004	0.0007
C-1 PHEN	0.0027	0.0038	0.0035	nd (T)	0.0013	0.0014
C-2 PHEN	0.0056	0.0069	0.0064	nd (T)	0.0011	0.0016
C-3 PHEN	0.0110	0.0140	0.0130	nd (T)	0.0020	0.0033
ANT	nd (T)	0.0003	0.0001	nd (T)	0.0002	0.0003
NBTP	0.0011	0.0015	0.0013	nd (T)	nd (T)	nd (T)
C-1 NBTP	0.0039	0.0059	0.0047	nd (T)	0.0017	0.0018
C-2 NBTP	0.0056	0.0092	0.0071	nd (T)	0.0016	0.0018
C-3 NBTP	0.0040	0.0077	0.0058	nd (T)	0.0022	0.0031
FLURANT	nd (T)	0.0001	0.0000	0.0002	0.0001	0.0003
PYR	0.0001	0.0003	0.0002	0.0002	0.0001	0.0002
C-1 PYR	0.0039	0.0045	0.0041	nd (T)	nd (T)	nd (T)
C-2 PYR	0.0093	0.0130	0.0100	nd (T)	nd (T)	nd (T)
B(a)ANT	0.0014	0.0008	0.0013	0.0004	0.0003	0.0007
CHRY	0.0031	0.0032	0.0034	0.0014	0.0009	0.0019
C-1 CHRY	0.0083	0.0077	0.0085	nd (T)	0.0021	0.0027
C-2 CHRY	0.0110	0.0100	0.0120	nd (T)	0.0038	0.0072
B(b)F**	0.0004	0.0006	0.0005	0.0006	0.0003	0.0007
B(e)P	0.0010	0.0012	0.0011	0.0005	0.0005	0.0007
B(a)P	0.0007	0.0009	0.0008	0.0008	0.0005	0.0008
PERYL	0.0002	0.0007	0.0003	0.0002	0.0002	0.0003
INDPYR	nd (T)	0.0001	0.0000	0.0003	nd (T)	nd (T)
DIBENZ	nd (T)	0.0001	0.0000	0.0004	nd (T)	nd (T)
BENZPER	nd (T)	nd (T)	nd (T)	0.0003	nd (T)	nd (T)
Total Target AH:	0.1200	0.1400	0.1300	0.0061	0.0190	0.0290
FFPI***	0.8802	0.8823	0.8785	0.0561	0.7438	0.7197
C3Da/C3Db	-	-	-	-	-	-
C3Pa/Pb	-	-	-	-	-	-
C1PYa/PYb	-	-	-	-	-	-
C1CYa/CYb	-	-	-	-	-	-
NOR/HOP	-	-	-	-	-	-
C3D/C3P	-	-	-	-	-	-
nC-17/pristane	-	-	-	-	-	-
nC-18/phytane	-	-	-	-	-	-
% Dry Wt	-	-	45.00	47.00	54.00	-
TPH (ppt)	-	-	-	-	-	-

MS FILE	AVERAGE (2)	ED4356G	ED4365D	ED4363F	ED4363G	ED4365F
LSU ID	N4210-039X	N4210-033	N4188-053	N4188-013	N4188-035	N4188-057
SAMPLE ID	94072211	94072001	94062902	94062018		94062804
n=*	92	46	25	50	41	24
LOCATION	Snug Harbor	Whittier Hrbr	Bass Harbor	Block Is.	Death Marsh	Eshamy
B/CLASS: EL	M	NA	M	M	M	M
B/CLASS: CAT	2		1	2	2	1
B/CLASS: HAB	Rocky	Dock	Boulder/Cob	Mixed	Mixed	Rocky
GEO/CLASS:	RRS	Dock	C/BPB	PB/TF	Unclassified	SRS?
EXPOSURE INDEX	HS/SH	--	HS/SH	HS/SH	--	HS/SH
COMMENTS:	--	Not E.V.O.	Not E.V.O.	Oil Mixture	Oil Mixture	--
TRENCH,DEPTH:	--	--	--	--	--	--
TYPE:	Mussel	Mussel	Mussel/Suspect	Mussel/Suspect	Mussel/Suspect	Mussel/Suspect
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)	nd (T)
C-1 NAPH	nd (T)	0.0110	nd (T)	nd (T)	nd (T)	nd (T)
C-2 NAPH	nd (T)	0.1000	0.0029	0.0023	0.0030	nd (T)
C-3 NAPH	nd (T)	0.2700	0.0059	0.0074	0.0120	nd (T)
C-4 NAPH	nd (T)	0.3700	0.0650	0.0100	0.0250	nd (T)
FLU	nd (T)	0.0160	nd (T)	nd (T)	nd (T)	nd (T)
C-1 FLU	nd (T)	0.0600	0.0061	0.0044	0.0066	nd (T)
C-2 FLU	nd (T)	0.1500	0.0840	0.0059	0.0480	nd (T)
C-3 FLU	nd (T)	0.2400	0.2200	0.0073	0.0980	nd (T)
DBT	nd (T)	0.2900	nd (T)	0.0006	0.0014	0.0002
C-1 DBT	nd (T)	0.0700	0.0290	0.0036	0.0120	nd (T)
C-2 DBT	nd (T)	0.1200	0.1600	0.0120	0.0800	nd (T)
C-3 DBT	nd (T)	0.0750	0.1500	0.0140	0.1400	nd (T)
PHEN	0.0006	0.1200	0.0065	0.0012	0.0026	0.0021
C-1 PHEN	0.0014	0.1700	0.0730	0.0070	0.0220	0.0030
C-2 PHEN	0.0014	0.1800	0.2300	0.0190	0.1200	0.0023
C-3 PHEN	0.0027	0.1200	0.1600	0.0300	0.2400	0.0000
ANT	0.0003	0.0081	0.0023	0.0001	0.0005	0.0002
NBTP	nd (T)	0.0290	0.0003	0.0024	0.0270	nd (T)
C-1 NBTP	0.0018	0.0130	nd (T)	0.0120	0.1200	0.0000
C-2 NBTP	0.0017	0.0056	nd (T)	0.0160	0.1500	nd (T)
C-3 NBTP	0.0027	0.0063	nd (T)	0.0130	0.1100	nd (T)
FLURANT	0.0002	0.2300	0.0033	0.0004	0.0012	0.0005
PYR	0.0002	0.1200	0.0017	0.0009	0.0056	0.0004
C-1 PYR	nd (T)	0.0800	0.0100	0.0060	0.0420	nd (T)
C-2 PYR	nd (T)	0.0360	0.0059	0.0140	0.0970	nd (T)
B(a)ANT	0.0005	0.2400	0.0011	0.0016	0.0032	0.0011
CHRY	0.0014	0.2400	0.0026	0.0066	0.0730	0.0011
C-1 CHRY	0.0024	0.0740	0.0077	0.0180	0.1200	nd (T)
C-2 CHRY	0.0055	0.0190	nd (T)	0.0220	0.1200	nd (T)
B(b)F**	0.0005	0.1000	0.0008	0.0007	0.0028	0.0003
B(e)P	0.0006	0.0660	0.0007	0.0015	0.0075	0.0001
B(a)P	0.0007	0.0310	0.0013	0.0013	0.0012	0.0005
PERYL	0.0002	0.0057	0.0005	0.0008	0.0046	nd (T)
INDPYR	nd (T)	0.0130	0.0006	nd (T)	nd (T)	nd (T)
DIBENZ	nd (T)	0.0150	0.0006	0.0001	0.0004	nd (T)
BENZPER	nd (T)	0.0031	0.0005	nd (T)	nd (T)	nd (T)
Total Target AH:	0.0250	3.7000	1.2000	0.2400	1.7000	0.0120
FFPI***	0.7304	0.6500	0.9476	0.8757	0.8861	M.I.
C3Da/C3Db	-	-	-	-	-	-
C3Pa/Pb	-	-	-	-	-	-
C1PYa/PYb	-	-	-	-	-	-
C1CYa/CYb	-	-	-	-	-	-
NOR/HOP	-	-	-	-	-	-
C3D/C3P	-	-	-	-	-	-
nC-17/pristane	-	-	-	-	-	-
nC-18/phytane	-	-	-	-	-	-
% Dry Wt	54.00	36.00	40.00	45.00	30.00	47.00
TPH (ppt)	-	-	-	-	-	-

MS FILE	ED4365C	ED4365E	ED5006C	ED5006D	ED4304H	ED4304C
LSU ID	N4188-036	N4188-054	N4210-075	N4210-069	N4210-080	N4210-061
SAMPLE ID		94062527	N05-01	N06-02	N11-02	94072112
n=*	33	31	NA	NA	NA	NA
LOCATION	Herring Bay	Sheep Bay	Snug Harbor	Bay of Isles	Crafton Is.	NW Bay Islet
B/CLASS: EL	M	M	U	U	U	M
B/CLASS: CAT	2	1	2	2	2	3
B/CLASS: HAB	Rocky	Mixed	Rocky	Unclassified	Mixed	Rocky
GEO/CLASS:	RRS	BB	RRS	SRS	PB/TF	BEDROCK
EXPOSURE INDEX	HS/SH	HS/SH	HS/SH	HS/SH	HS/SH	HS/SH
COMMENTS:	--	--	--	--	MOR (RPI)	Composite
TRENCH,DEPTH:	--	--	Tr A, 0-3cm	Tr B, 0-5cm	Tr A, 0cm	--
TYPE:	Mussel/Suspect	Mussel/Suspect	S/MO	Sed.	Sed.	Sed.
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (T)	nd (T)	0.0180	0.0190	nd (H)	nd (L)
C-1 NAPH	nd (T)	nd (T)	0.1600	0.0850	nd (H)	nd (L)
C-2 NAPH	nd (T)	nd (T)	3.7000	4.8000	0.4000	nd (L)
C-3 NAPH	nd (T)	nd (T)	16.0000	17.0000	2.2000	nd (L)
C-4 NAPH	M.I.	nd (T)	27.0000	19.0000	2.7000	nd (L)
FLU	nd (T)	nd (T)	0.3200	0.2200	0.0220	nd (L)
C-1 FLU	nd (T)	M.I.	3.2000	3.3000	0.4000	nd (L)
C-2 FLU	nd (T)	nd (T)	12.0000	9.5000	1.3000	nd (L)
C-3 FLU	M.I.	M.I.	18.0000	12.0000	1.7000	nd (L)
DBT	0.0006	nd (T)	0.6300	0.5100	0.0610	nd (L)
C-1 DBT	M.I.	M.I.	5.0000	6.0000	0.6700	nd (L)
C-2 DBT	M.I.	M.I.	33.0000	16.0000	2.2000	nd (L)
C-3 DBT	M.I.	M.I.	26.0000	17.0000	2.6000	0.0250
PHEN	0.0009	0.0023	1.2000	1.2000	0.0620	nd (L)
C-1 PHEN	M.I.	M.I.	7.9000	9.6000	0.9000	nd (L)
C-2 PHEN	M.I.	M.I.	21.0000	20.0000	2.5000	nd (L)
C-3 PHEN	M.I.	M.I.	32.0000	22.0000	3.5000	0.0270
ANT	0.0004	0.0003	nd (H)	nd (H)	0.0081	nd (L)
NBTP	nd (T)	M.I.	2.6000	1.9000	0.3400	nd (L)
C-1 NBTP	M.I.	M.I.	16.0000	9.2000	1.3000	nd (L)
C-2 NBTP	nd (T)	M.I.	26.0000	14.0000	2.2000	0.1000
C-3 NBTP	M.I.	M.I.	24.0000	18.0000	2.2000	0.3000
FLURANT	nd (T)	nd (T)	0.3400	0.1000	0.0240	0.0028
PYR	nd (T)	nd (T)	0.9300	0.5300	0.1000	0.0043
C-1 PYR	nd (T)	nd (T)	5.7000	3.5000	0.5700	0.0210
C-2 PYR	M.I.	nd (T)	12.0000	6.3000	1.2000	0.0740
B(a)ANT	0.0064	M.I.	4.5000	0.1100	0.4700	0.0046
CHRY	0.0079	M.I.	0.0800	2.8000	0.4700	0.0360
C-1 CHRY	M.I.	M.I.	8.8000	4.9000	0.7900	0.0580
C-2 CHRY	0.0300	M.I.	14.0000	7.8000	1.2000	0.1000
B(b)F**	0.0076	nd (T)	0.4100	0.2600	0.0880	0.0150
B(e)P	0.0075	nd (T)	1.1000	0.0620	0.1200	0.0420
B(a)P	0.0160	nd (T)	1.6000	nd (H)	0.0180	0.0160
PERYL	0.0059	nd (T)	0.0370	nd (H)	0.0140	nd (L)
INDPYR	0.0069	nd (T)	nd (H)	nd (H)	nd (H)	0.0110
DIBENZ	0.0056	nd (T)	0.2500	0.1100	0.0350	0.0300
BENZPER	0.0061	nd (T)	0.1000	0.0450	0.0130	0.0150
Total Target AH:	0.1000	0.0026	330.0000	230.0000	32.0000	0.8800
FFPI***	M.I.	M.I.	0.9350	0.9402	0.9221	0.7548
C3Da/C3Db	-	-	2.0900	2.1180	2.1500	2.0600
C3Pa/Pb	-	-	1.0100	1.0750	1.1000	1.0400
C1PYa/PYb	-	-	0.5960	0.6380	0.6200	0.5000
C1CYa/CYb	-	-	3.7400	2.6750	3.3000	17.7000
NOR/HOP	-	-	0.6700	0.6570	0.7300	0.6600
C3D/C3P	-	-	0.9500	0.8766	0.9000	1.0600
nC-17/pristane	-	-	0.5150	0.9300	0.0900	0.9400
nC-18/phytane	-	-	0.4930	0.9050	nd	0.9800
% Dry Wt	36.00	59.00	-	-	-	-
TPH (ppt)	-	-	33.00	36.00	2.10	0.97

MS FILE	ED4304D	ED4308G	ED4306D	AVERAGE (4)	ED4305C	ED4313F
LSU ID	N4210-061D	N4210-061DR	N4210-061R	N4210-061X	N4210-083	N4210-083R
SAMPLE ID	94072112	94072112	94072112	94072112	94072111	94072111
n=*	NA	NA	NA	NA	NA	NA
LOCATION	NW Bay Islet	NW Bay Islet	NW Bay Islet	NW Bay Islet	NW Bay Islet	NW Bay Islet
B/CLASS: EL	M	M	M	M	U	U
B/CLASS: CAT	3	3	3	3	3	3
B/CLASS: HAB	Rocky	Rocky	Rocky	Rocky	Rocky	Rocky
GEO/CLASS:	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK
EXPOSURE INDEX	HS/SH	HS/SH	HS/SH	HS/SH	HS/SH	HS/SH
COMMENTS:	Composite	Composite	Composite	Composite	--	--
TRENCH,DEPTH:	--	--	--	--	Alan's Spot	Alan's Spot
TYPE:	Sed:	Sed.	Sed.	Sed.	Sed.	Sed.
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (L)	nd (L)	0.0006	0.0002	0.0120	0.0150
C-1 NAPH	nd (L)	nd (L)	0.0012	0.0003	0.0820	0.1300
C-2 NAPH	nd (L)	nd (L)	0.0037	0.0009	5.7000	9.7000
C-3 NAPH	nd (L)	nd (L)	0.0027	0.0007	15.0000	27.0000
C-4 NAPH	nd (L)	nd (L)	0.0074	0.0019	13.0000	26.0000
FLU	nd (L)	nd (L)	0.0004	0.0001	0.1900	0.4100
C-1 FLU	nd (L)	nd (L)	0.0035	0.0009	2.5000	5.6000
C-2 FLU	nd (L)	nd (L)	0.0160	0.0040	6.7000	14.0000
C-3 FLU	nd (L)	nd (L)	0.0160	0.0040	8.5000	16.0000
DBT	nd (L)	nd (L)	0.0003	0.0001	0.6700	0.8600
C-1 DBT	nd (L)	0.0007	0.0033	0.0010	5.1000	11.0000
C-2 DBT	nd (L)	0.0062	0.0150	0.0053	13.0000	24.0000
C-3 DBT	0.0200	0.0150	0.0360	0.0240	14.0000	24.0000
PHEN	nd (L)	0.0008	0.0023	0.0008	1.3000	3.0000
C-1 PHEN	nd (L)	0.0048	0.0110	0.0040	9.3000	21.0000
C-2 PHEN	nd (L)	0.0100	0.0230	0.0083	19.0000	35.0000
C-3 PHEN	0.0240	0.0240	0.0570	0.0330	20.0000	33.0000
ANT	nd (L)	0.0006	0.0015	0.0005	nd (H)	nd (H)
NBTP	nd (L)	0.0022	0.0044	0.0017	2.1000	2.3000
C-1 NBTP	nd (L)	0.0190	0.0560	0.0190	7.4000	7.4000
C-2 NBTP	0.0670	0.0670	0.1300	0.0910	9.7000	8.2000
C-3 NBTP	0.2000	0.1500	0.2400	0.2200	7.6000	5.5000
FLURANT	nd (L)	nd (L)	0.0012	0.0010	0.0810	0.1600
PYR	nd (L)	0.0012	0.0027	0.0021	0.4500	0.8400
C-1 PYR	0.0140	0.0120	0.0400	0.0220	3.2000	5.5000
C-2 PYR	0.0450	0.0530	0.1500	0.0810	6.2000	9.8000
B(a)ANT	0.0044	0.0007	0.0022	0.0030	0.1300	0.1800
CHRY	0.0180	0.0220	0.0910	0.0420	2.3000	3.5000
C-1 CHRY	0.0350	0.0310	0.1300	0.0640	3.9000	4.9000
C-2 CHRY	0.0690	0.0650	0.2100	0.1100	4.7000	5.2000
B(b)F**	0.0067	0.0020	0.0130	0.0092	0.2400	0.1200
B(e)P	0.0260	0.0120	0.0430	0.0310	0.3000	0.2200
B(a)P	0.0110	nd (L)	0.0066	0.0084	0.0530	0.0560
PERYL	nd (L)	nd (L)	0.0034	0.0009	0.0480	0.0170
INDPYR	nd (L)	nd (L)	0.0014	0.0031	nd (H)	nd (H)
DIBENZ	0.0230	0.0030	0.0120	0.0170	0.0560	0.0290
BENZPER	nd (L)	0.0008	0.0037	0.0049	0.0190	0.0097
Total Target AH:	0.5600	0.5000	1.3000	0.8200	180.0000	300.0000
FFPI***	0.7983	0.8675	0.7962	0.7949	0.9314	0.9267
C3Da/C3Db	2.3300	2.2600	2.3200	2.2425	1.8800	1.9800
C3Pa/Pb	1.1000	0.9000	1.0400	1.0200	1.0600	1.0200
C1PYa/PYb	0.6000	0.4700	0.5700	0.5350	0.5600	0.5900
C1CYa/CYb	nd	15.6000	20.0000	17.7667	2.3600	2.3900
NOR/HOP	0.7500	0.7300	0.6900	0.7075	0.7900	0.8700
C3D/C3P	0.9500	0.8200	0.7800	0.9025	0.7700	0.8800
nC-17/pristane	1.0700	0.8800	1.0500	0.9850	0.1700	0.2000
nC-18/phytane	0.9200	0.7900	0.9000	0.8975	0.2300	0.2500
% Dry Wt	-	-	-	-	-	-
TPH (ppt)	0.64	-	-	0.81	-	-

MS FILE	AVERAGE (2)	ED4307C	ED4313E	AVERAGE (2)	ED4308F	ED4308D
LSU ID	N4210-083X	N4210-076	N4210-076R	N4210-076X	N4210-099	N4210-096
SAMPLE ID	94072111	N03-X01	N03-X01	N03-X01	N11-04	94072206
n=*	NA	NA	NA	NA	NA	NA
LOCATION	NW Bay Islet	Smith Is, N3	Smith Is, N3	Smith Is, N3	Crafton Is.	Sleepy/PES Site
B/CLASS: EL	U	U	U	U	U	M
B/CLASS: CAT	3	3	3	3	2	3
B/CLASS: HAB	Rocky	Rocky	Rocky	Rocky	Mixed	Boulder/Cob
GEO/CLASS:	BEDROCK	C/BPB	C/BPB	C/BPB	PB/TF	BB
EXPOSURE INDEX	HS/SH	HE	HE	HE	HS/SH	EX
COMMENTS:	--	10' below Tr B	10' below Tr B	10' below Tr B	MOR (RPI)	PES Test Site
TRENCH,DEPTH:	Alan's Spot	Surface	Surface	Surface	Tr A, 0cm	--
TYPE:	Sed.	Sed.	Sed.	Sed.	Sheen	Sheen
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/no unit	ng/no unit
NAPH	0.0140	0.0011	0.0009	0.0010	nd (H)	nd (H)
C-1 NAPH	0.1100	0.0022	0.0020	0.0021	nd (H)	nd (H)
C-2 NAPH	7.7000	0.0190	0.0180	0.0190	1.0000	3.9000
C-3 NAPH	21.0000	0.1200	0.1100	0.1200	6.7000	12.0000
C-4 NAPH	20.0000	0.1500	0.1300	0.1400	7.9000	11.0000
FLU	0.3000	0.0021	0.0026	0.0024	0.0780	0.2700
C-1 FLU	4.1000	0.0250	0.0220	0.0240	1.1000	2.3000
C-2 FLU	10.0000	0.0720	0.0580	0.0650	3.3000	5.4000
C-3 FLU	12.0000	0.0920	0.0830	0.0880	4.7000	5.7000
DBT	0.7700	0.0054	0.0041	0.0048	0.1600	0.9800
C-1 DBT	8.1000	0.0470	0.0570	0.0520	1.8000	4.2000
C-2 DBT	19.0000	0.1300	0.1100	0.1200	5.6000	8.1000
C-3 DBT	19.0000	0.1700	0.1500	0.1600	6.2000	7.8000
PHEN	2.2000	0.0062	0.0054	0.0058	0.2100	1.8000
C-1 PHEN	15.0000	0.0830	0.0670	0.0750	2.5000	9.0000
C-2 PHEN	27.0000	0.1800	0.1600	0.1700	7.5000	13.0000
C-3 PHEN	27.0000	0.2300	0.2100	0.2200	9.3000	12.0000
ANT	nd (H)	nd (L)	nd (L)	nd (L)	nd (H)	nd (H)
NBTP	2.2000	0.0210	0.0230	0.0220	0.7800	1.1000
C-1 NBTP	7.4000	0.0970	0.1100	0.1000	3.2000	3.8000
C-2 NBTP	9.0000	0.1600	0.1800	0.1700	4.5000	5.1000
C-3 NBTP	6.6000	0.1600	0.1800	0.1700	4.1000	4.5000
FLURANT	0.1200	0.0018	0.0011	0.0015	0.0520	0.0770
PYR	0.6500	0.0083	0.0060	0.0072	0.2500	0.2900
C-1 PYR	4.4000	0.0510	0.0420	0.0470	1.4000	1.7000
C-2 PYR	8.0000	0.1200	0.1100	0.1200	2.7000	3.1000
B(a)ANT	0.1600	0.0048	0.0018	0.0033	0.1300	0.1400
CHRY	2.9000	0.0770	0.0490	0.0630	1.1000	1.5000
C-1 CHRY	4.4000	0.1200	0.0910	0.1100	2.0000	2.6000
C-2 CHRY	5.0000	0.1800	0.1400	0.1600	2.8000	3.5000
B(b)F**	0.1800	0.0120	0.0025	0.0073	0.1400	0.1900
B(e)P	0.2600	0.0180	0.0100	0.0140	0.1900	0.2100
B(a)P	0.0550	0.0046	0.0019	0.0033	0.0400	0.0420
PERYL	0.0330	0.0036	nd (L)	0.0018	0.0330	nd (H)
INDPYR	nd (H)	0.0018	nd (L)	0.0009	0.0580	nd (H)
DIBENZ	0.0430	0.0038	0.0018	0.0028	nd (H)	0.0650
BENZPER	0.0140	0.0019	nd (L)	0.0010	nd (H)	nd (H)
Total Target AH:	240.0000	2.4000	2.1000	2.3000	82.0000	130.0000
FFPI***	0.9288	0.8876	0.9174	0.9011	0.9381	0.9197
C3Da/C3Db	1.9300	1.9900	1.9700	1.9800	2.1200	2.0700
C3Pa/Pb	1.0400	1.0200	0.9900	1.0050	1.0700	1.0600
C1PYa/PYb	0.5750	0.5900	0.6100	0.6000	0.5900	0.5600
C1CYa/CYb	2.3750	3.6900	3.4400	3.5650	2.6300	2.1800
NOR/HOP	0.8300	0.7400	0.7700	0.7550	0.6800	0.7000
C3D/C3P	0.8250	0.8700	0.8600	0.8650	0.8600	0.8200
nC-17/pristane	0.1850	0.1700	0.1300	0.1500	nd	nd
nC-18/phytane	0.2400	nd	0.0700	0.0700	nd	nd
% Dry Wt	-	-	-	-	-	-
TPH (ppt)	-	0.17	-	0.17	-	-

MS FILE	ED4308E	ED4296E	ED4304G	ED4307F	ED4308C	AVERAGE (2)
LSU ID	N4210-097	N4210-064	N4210-070	N4210-100	N4210-100R	N4210-100X
SAMPLE ID	N03-X02	N09-01	94072104	94072107	94072107	94072107
n=*	NA	NA	NA	NA	NA	NA
LOCATION	Smith Is, N3	Block Is.	Block Is.	Block Is.	Block Is.	Block Is.
B/CLASS: EL	M	U	L	M	M	M
B/CLASS: CAT	3	2	2	2	2	2
B/CLASS: HAB	Rocky	Unclassified	Mixed	Mixed	Mixed	Mixed
GEO/CLASS:	C/BPB	PB/TF	PB/TF	PB/TF	PB/TF	PB/TF
EXPOSURE INDEX	HE	HS/SH	HS/SH	HS/SH	HS/SH	HS/SH
COMMENTS:	10' below Tr B	--	Clear Plot 3-3	Clear Plot 4-3	Clear Plot 4-3	Clear Plot 4-3
TRENCH,DEPTH:	Surface	Tr B, 2-10cm	--	--	--	--
TYPE:	Sheen	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.
COMPOUNDS	ng/no unit	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	0.1300	nd (L)	0.0067	nd (L)	nd (L)	nd (L)
C-1 NAPH	1.9000	0.0002	0.0270	nd (L)	0.0006	0.0003
C-2 NAPH	44.0000	0.0019	0.1900	nd (L)	0.0049	0.0025
C-3 NAPH	110.0000	0.0050	2.7000	0.0590	0.0360	0.0480
C-4 NAPH	100.0000	0.0082	6.2000	0.0910	0.0640	0.0780
FLU	2.0000	nd (L)	0.0170	nd (L)	0.0005	0.0003
C-1 FLU	16.0000	0.0013	1.2100	0.0190	0.0120	0.0160
C-2 FLU	38.0000	0.0053	3.7000	0.0680	0.0470	0.0580
C-3 FLU	45.0000	0.0083	4.4000	0.1000	0.0740	0.0870
DBT	3.9000	0.0002	0.0400	0.0120	0.0073	0.0097
C-1 DBT	25.0000	0.0021	1.8000	0.0480	0.0280	0.0380
C-2 DBT	57.0000	0.0084	5.9000	0.1500	0.1000	0.1300
C-3 DBT	59.0000	0.0130	6.7000	0.1900	0.1300	0.1600
PHEN	7.2000	0.0009	nd (H)	0.0041	0.0016	0.0029
C-1 PHEN	50.0000	0.0018	0.2000	0.0230	0.0150	0.0190
C-2 PHEN	92.0000	0.0082	3.7000	0.1600	0.1100	0.1400
C-3 PHEN	93.0000	0.0170	7.7000	0.2600	0.1900	0.2300
ANT	nd (H)	0.0003	nd (H)	0.0019	0.0008	0.0013
NBTP	7.7000	0.0022	0.9300	0.0250	0.0170	0.0210
C-1 NBTP	29.0000	0.0120	3.5000	0.1000	0.0730	0.0870
C-2 NBTP	42.0000	0.0250	5.0000	0.1700	0.1300	0.1500
C-3 NBTP	35.0000	0.0380	4.4000	0.1900	0.1700	0.1800
FLURANT	0.3400	0.0023	0.0470	0.0120	0.0010	0.0065
PYR	2.0000	0.0019	0.2100	0.0150	0.0067	0.0110
C-1 PYR	14.0000	0.0041	1.4000	0.0620	0.0340	0.0480
C-2 PYR	28.0000	0.0099	2.6000	0.1500	0.0930	0.1200
B(a)ANT	0.6400	0.0008	0.0250	0.0042	0.0022	0.0032
CHRY	11.0000	0.0055	1.0000	0.0890	0.0380	0.0640
C-1 CHRY	20.0000	0.0085	2.0000	0.1400	0.0590	0.1000
C-2 CHRY	27.0000	0.0160	2.6000	0.2000	0.1000	0.1500
B(b)F**	1.2000	0.0036	0.1500	0.0180	0.0071	0.0130
B(e)P	1.5000	0.0031	0.2000	0.0240	0.0110	0.0180
B(a)P	0.3800	0.0013	0.0210	0.0029	0.0030	0.0030
PERYL	0.2000	0.0018	0.0140	nd (L)	nd (L)	nd (L)
INDPYR	0.2700	0.0011	nd (H)	nd (L)	0.0009	0.0005
DIBENZ	0.1300	0.0026	0.0410	nd (L)	0.0029	0.0015
BENZPER	nd (H)	0.0006	0.0140	nd (L)	0.0011	0.0006
Total Target AH:	960.0000	0.2200	69.0000	2.4000	1.6000	2.0000
FFPI***	0.9344	0.8536	0.9487	0.8821	0.9176	0.8962
C3Da/C3Db	1.9100	2.3300	2.1400	1.5500	1.3100	1.4300
C3Pa/Pb	1.1300	0.9400	1.1200	0.9300	0.9500	0.9400
C1PYa/PYb	0.5600	0.7000	0.6400	0.6900	0.5800	0.6350
C1CYa/CYb	2.1900	4.1000	2.2500	4.7400	4.2900	4.5150
NOR/HOP	0.6900	0.6300	0.7600	0.7500	0.6700	0.7100
C3D/C3P	0.8100	0.9100	0.9900	0.8900	0.8700	0.8800
nC-17/pristane	nd	1.1800	nd	2.1600	1.7500	1.9550
nC-18/phytane	nd	1.0200	nd	1.0500	0.6800	0.8650
% Dry Wt	-	-	-	-	-	-
TPH (ppt)	-	0.08	33.00	0.39	-	0.39

MS FILE	ED4296F	ED5006E	ED4302C	ED4302G	ED5008E	AVERAGE (2)
LSU ID	N4210-078	N4210-077	N4210-082	N4210-094	N4210-094R	N4210-094X
SAMPLE ID	N11-03	N13-01	N13-02	N10-01	N10-01	N10-01
n=*	NA	NA	NA	NA	NA	NA
LOCATION	Crafton Is.	Herring Bay	Herring Bay	Herring Bay	Herring Bay	Herring Bay
B/CLASS: EL	U	U	U	M	M	M
B/CLASS: CAT	2	2	2	3	3	3
B/CLASS: HAB	Mixed	Rocky	Rocky	Unclassified	Unclassified	Unclassified
GEO/CLASS:	PB/TF	RRS	RRS	SRS	SRS	SRS
EXPOSURE INDEX	HS/SH	HS/SH	HS/SH	HS/SH	HS/SH	HS/SH
COMMENTS:	MOR (RPI)	--	--	HOR (RPI)	HOR (RPI)	HOR (RPI)
TRENCH,DEPTH:	Tr A, 0-10cm	Tr B, 15-25cm	Tr A, 15-25cm	Tr X, 35-52cm	Tr X, 35-52cm	Tr X, 35-52cm
TYPE:	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (L)	nd (H)	nd (H)	0.0017	0.0019	0.0018
C-1 NAPH	0.0017	0.0900	0.0120	0.0620	0.0570	0.0600
C-2 NAPH	0.0770	2.7000	0.1400	1.2000	0.9300	1.1000
C-3 NAPH	0.3300	8.5000	1.9000	1.7000	1.4000	1.6000
C-4 NAPH	0.3500	11.0000	4.1000	1.2000	1.1000	1.2000
FLU	0.0042	0.1300	0.0280	0.0530	0.0580	0.0560
C-1 FLU	0.0610	1.5000	0.3500	0.2600	0.2600	0.2600
C-2 FLU	0.1800	4.6000	1.3000	0.4800	0.5200	0.5000
C-3 FLU	0.2700	6.9000	2.0000	0.5100	0.5200	0.5200
DBT	0.0110	0.3300	0.0400	0.1100	0.1100	0.1100
C-1 DBT	0.1100	2.7000	0.8400	0.4200	0.4400	0.4300
C-2 DBT	0.3400	8.3000	2.8000	0.8100	0.7800	0.8000
C-3 DBT	0.4300	9.8000	3.3000	0.7600	0.7100	0.7400
PHEN	0.0150	0.4200	0.0110	0.2000	0.2100	0.2100
C-1 PHEN	0.1700	4.2000	1.0000	0.8000	0.8400	0.8200
C-2 PHEN	0.4400	11.0000	3.7000	1.1000	1.2000	1.2000
C-3 PHEN	0.5700	14.0000	4.5000	1.0000	1.1000	1.1000
ANT	nd (L)	nd (H)	nd (H)	nd (L)	nd (L)	nd (L)
NBTP	0.0660	1.2000	0.6100	0.1100	0.0880	0.0990
C-1 NBTP	0.3000	5.7000	2.6000	0.3500	0.3400	0.3500
C-2 NBTP	0.5300	7.8000	4.1000	0.4100	0.4100	0.4100
C-3 NBTP	0.5600	7.5000	4.2000	0.3000	0.3400	0.3200
FLURANT	0.0027	0.0570	0.0180	0.0054	0.0052	0.0053
PYR	0.0140	0.3200	0.0960	0.0240	0.0250	0.0250
C-1 PYR	0.0980	2.1000	0.6800	0.1400	0.1700	0.1600
C-2 PYR	0.2300	4.3000	1.5000	0.2800	0.2900	0.2900
B(a)ANT	0.0043	0.0800	0.0370	0.0074	0.0078	0.0076
CHRY	0.0960	1.6000	0.7100	0.0980	0.1300	0.1100
C-1 CHRY	0.1800	3.1000	1.4000	0.1600	0.2000	0.1800
C-2 CHRY	0.2800	4.5000	2.1000	0.1700	0.2500	0.2100
B(b)F**	0.0210	0.1200	0.1900	0.0100	0.0170	0.0140
B(e)P	0.0310	0.2900	0.2100	0.0110	0.0170	0.0140
B(a)P	0.0075	0.0380	0.0380	0.0054	0.0037	0.0046
PERYL	0.0083	nd (H)	0.0220	nd (L)	nd (L)	nd (L)
INDPYR	nd (L)	nd (H)	0.0190	nd (L)	nd (L)	nd (L)
DIBENZ	0.0150	0.0510	0.0850	0.0029	0.0045	0.0037
BENZPER	0.0050	0.0170	0.0440	nd (L)	0.0025	0.0013
Total Target AH:	5.8000	120.0000	45.0000	13.0000	13.0000	13.0000
FFPI***	0.9249	0.9401	0.9325	0.9362	0.9264	0.9326
C3Da/C3Db	1.8800	2.0930	1.9700	2.1600	2.2610	2.2105
C3Pa/Pb	1.0500	1.0520	1.0500	1.1000	1.0850	1.0925
C1PYa/PYb	0.6000	0.6480	0.6100	0.6300	0.5780	0.6040
C1CYa/CYb	3.2100	2.2340	2.1300	2.2900	2.0000	2.1450
NOR/HOP	0.6500	0.6810	0.6500	0.7500	0.7857	0.7679
C3D/C3P	0.9000	0.8340	0.8400	0.8500	0.8134	0.8317
nC-17/pristane	0.0700	0.9090	1.7100	nd	nd	nd
nC-18/phytane	0.0630	0.7440	1.5000	nd	nd	nd
% Dry Wt	-	-	-	-	-	-
TPH (ppt)	0.79	4.70	3.80	-	-	0.47

MS FILE	ED4307D	ED4310D	AVERAGE (2)	ED4305D	ED4305E	ED4305F
LSU ID	N4210-065	N4210-065R	N4210-065X	N4210-087	N4210-091	N4210-092
SAMPLE ID	N07-05	N07-05	N07-05	N07-04	N07-02	N07-03
n=*	NA	NA	NA	NA	NA	NA
LOCATION	Knight Is.	Knight Is.	Knight Is.	Knight Is.	Knight Is.	Knight Is.
B/CLASS: EL	U	U	U	U	U	U
B/CLASS: CAT	3	3	3	3	3	3
B/CLASS: HAB	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified	Unclassified
GEO/CLASS:	C/BPB	C/BPB	C/BPB	C/BPB	C/BPB	C/BPB
EXPOSURE INDEX	EX	EX	EX	EX	EX	EX
COMMENTS:	--	--	--	LOR (RPI)	LOR (RPI)	MOR (RPI)
TRENCH,DEPTH:	Tr A, 35-45cm	Tr A, 35-45cm	Tr A, 35-45cm	Tr A, 36-42cm	Tr B, 35-42cm	Tr C, 35-45cm
TYPE:	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	0.0016
C-1 NAPH	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	0.0030
C-2 NAPH	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	0.0087
C-3 NAPH	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	0.0630
C-4 NAPH	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	0.4200
FLU	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)
C-1 FLU	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)
C-2 FLU	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	0.2100
C-3 FLU	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	0.8700
DBT	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)
C-1 DBT	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	0.0280
C-2 DBT	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	0.6400
C-3 DBT	0.0240	0.0080	0.0160	nd (L)	nd (L)	2.0000
PHEN	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	0.0073
C-1 PHEN	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	0.0100
C-2 PHEN	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	0.4800
C-3 PHEN	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	1.9000
ANT	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)
NBTP	0.0038	nd (L)	0.0019	nd (L)	0.0190	0.0380
C-1 NBTP	0.0460	0.0510	0.0490	nd (L)	0.2300	1.2000
C-2 NBTP	0.2300	0.2100	0.2200	0.2000	0.5400	1.9000
C-3 NBTP	0.3900	0.4800	0.4400	0.9500	1.3000	1.7000
FLURANT	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)
PYR	0.0033	0.0023	0.0028	nd (L)	0.0086	0.0970
C-1 PYR	0.0460	0.0260	0.0360	0.0600	0.1200	0.5500
C-2 PYR	0.1900	0.1400	0.1700	0.3200	0.5500	1.3000
B(a)ANT	nd (L)	0.0027	0.0014	0.0086	0.0092	0.0062
CHRY	0.0760	0.3400	0.2100	0.0690	0.1400	0.4400
C-1 CHRY	0.1700	0.0950	0.1300	0.1100	0.2200	0.6200
C-2 CHRY	0.3200	0.2100	0.2700	0.3000	0.5000	0.9700
B(b)F**	0.0160	0.0068	0.0110	0.0100	0.0150	0.0500
B(e)P	0.0330	0.0240	0.0290	0.0990	0.1300	0.0920
B(a)P	0.0056	0.0057	0.0057	0.0150	0.0049	0.0200
PERYL	nd (L)	0.0033	0.0017	0.0070	0.0091	0.0097
INDPYR	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)
DIBENZ	0.0085	0.0085	0.0085	0.0280	0.0340	0.0260
BENZPER	nd (L)	0.0028	0.0014	0.0096	nd (L)	0.0083
Total Target AH:	1.6000	1.6000	1.6000	2.2000	3.8000	16.0000
FFPI***	0.8397	0.7175	0.7791	0.8485	0.8640	0.9143
C3Da/C3Db	1.5700	1.2300	1.4000	nd	nd	1.7900
C3Pa/Pb	nd	nd	nd	nd	nd	0.9700
C1PYa/PYb	0.3600	0.3700	0.3650	nd	0.4300	0.5800
C1CYa/CYb	nd	nd	nd	nd	nd	7.1500
NOR/HOP	0.7700	0.6400	0.7050	0.8100	0.7800	0.7400
C3D/C3P	nd	nd	nd	nd	nd	1.2000
nC-17/pristane	nd	nd	nd	nd	nd	nd
nC-18/phytane	nd	nd	nd	nd	nd	nd
% Dry Wt	-	-	-	-	-	-
TPH (ppt)	0.60	-	0.60	2.90	3.30	4.50

MS FILE	ED4305G	ED4304E	ED4304F	ED4310C	ED4313D	ED4306E
LSU ID	N4210-095	N4210-062	N4210-062D	N4210-062DR	N4210-062DR	N4210-062R
SAMPLE ID	N07-01	N15-01	N15-01	N15-01	N15-01	N15-01
n=*	NA	NA	NA	NA	NA	NA
LOCATION	Knight Is.	LaTouche	LaTouche	LaTouche	LaTouche	LaTouche
B/CLASS: EL	U	U	U	U	U	U
B/CLASS: CAT	3	3	3	3	3	3
B/CLASS: HAB	Unclassified	Boulder/Cob	Boulder/Cob	Boulder/Cob	Boulder/Cob	Boulder/Cob
GEO/CLASS:	C/BPB	C/BPB	C/BPB	C/BPB	C/BPB	C/BPB
EXPOSURE INDEX	EX	HE	HE	HE	HE	HE
COMMENTS:	HOR (RPI)	OF (RPI)	OF (RPI)	OF (RPI)	OF (RPI)	OF (RPI)
TRENCH,DEPTH:	Tr C, 55-60cm	Tr B, 35-41cm	Tr B, 35-41cm	Tr B, 35-41cm	Tr B, 35-41cm	Tr B, 35-41cm
TYPE:	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	0.0020	nd (L)	nd (L)	nd (L)	0.0003	0.0002
C-1 NAPH	0.0056	nd (L)	nd (L)	nd (L)	0.0007	0.0005
C-2 NAPH	0.0100	nd (L)	nd (L)	nd (L)	0.0015	0.0009
C-3 NAPH	0.0280	nd (L)	nd (L)	nd (L)	0.0029	0.0012
C-4 NAPH	0.3400	nd (L)	nd (L)	nd (L)	0.0043	0.0014
FLU	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	0.0001
C-1 FLU	nd (L)	nd (L)	nd (L)	nd (L)	0.0032	0.0011
C-2 FLU	0.1500	nd (L)	nd (L)	nd (L)	0.0060	0.0030
C-3 FLU	1.0000	nd (L)	nd (L)	nd (L)	0.0091	0.0044
DBT	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	0.0001
C-1 DBT	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	0.0010
C-2 DBT	0.5800	0.0030	nd (L)	nd (L)	0.0054	0.0036
C-3 DBT	2.4000	0.0073	nd (L)	nd (L)	0.0083	0.0056
PHEN	nd (L)	0.0005	nd (L)	0.0018	0.0020	0.0005
C-1 PHEN	0.0680	0.0031	nd (L)	0.0062	0.0076	0.0028
C-2 PHEN	0.3700	0.0054	nd (L)	0.0110	0.0120	0.0066
C-3 PHEN	2.1000	0.0076	nd (L)	0.0140	0.0130	0.0073
ANT	nd (L)	nd (L)	nd (L)	0.0018	0.0018	0.0004
NBTP	0.0340	nd (L)	nd (L)	nd (L)	0.0007	0.0005
C-1 NBTP	1.3000	0.0046	nd (L)	nd (L)	0.0074	0.0047
C-2 NBTP	2.1000	0.0088	nd (L)	0.0250	0.0083	0.0086
C-3 NBTP	1.8000	0.0300	0.0710	0.1100	0.0660	0.0230
FLURANT	0.0032	0.0007	nd (L)	0.0016	0.0004	0.0002
PYR	0.1500	0.0009	nd (L)	0.0023	0.0025	0.0004
C-1 PYR	0.7500	0.0018	nd (L)	0.0078	0.0090	0.0030
C-2 PYR	1.6000	0.0059	nd (L)	0.0250	0.0260	0.0092
B(a)ANT	0.0067	0.0016	0.0022	0.0020	0.0023	0.0006
CHRY	0.5700	0.0018	0.0024	0.0061	0.0065	0.0030
C-1 CHRY	0.6800	0.0034	nd (L)	0.0150	0.0130	0.0068
C-2 CHRY	0.9700	0.0077	0.0250	0.0460	0.0330	0.0110
B(b)F**	0.0560	0.0021	0.0070	0.0038	0.0026	0.0021
B(e)P	0.0120	0.0015	0.0050	0.0049	0.0034	0.0019
B(a)P	0.1200	0.0010	0.0031	0.0022	0.0018	0.0007
PERYL	0.0067	0.0015	0.0026	0.0016	0.0012	0.0008
INDPYR	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)	nd (L)
DIBENZ	0.0260	0.0049	0.0150	0.0060	0.0035	0.0022
BENZPER	0.0079	nd (L)	nd (L)	0.0016	nd (L)	nd (L)
Total Target AH:	17.0000	0.1100	0.1300	0.3000	0.2700	0.1200
FFPI***	0.9010	0.8058	0.7202	0.8333	0.8426	0.8416
C3Da/C3Db	1.8300	1.7600	nd	1.4300	1.3600	1.8300
C3Pa/Pb	0.9800	1.3700	1.2100	1.1000	1.4300	1.0900
C1PYa/PYb	0.5800	nd	nd	nd	nd	0.4400
C1CYa/CYb	11.7000	nd	nd	nd	nd	4.5000
NOR/HOP	0.7600	0.6500	0.5700	0.6300	0.7800	0.6700
C3D/C3P	1.2300	1.0800	nd	nd	0.7800	0.8700
nC-17/pristane	nd	0.8100	1.0800	0.8800	0.9100	0.4700
nC-18/phytane	nd	0.6300	0.8800	1.0300	0.8100	0.5000
% Dry Wt	-	-	-	-	-	-
TPH (ppt)	7.70	0.27	0.50	-	-	-

MS FILE	ED4313C	AVERAGE (6)	ED4296D	ED4301F	ED4301G	AVERAGE (2)
LSU ID	N4210-062R	N4210-062X	N4210-093	N4210-063	N4210-063D	N4210-063X
SAMPLE ID	N15-01	N15-01	N17-01	N01-03	N01-03	N01-03
n=*	NA	NA	NA	NA	NA	NA
LOCATION	LaTouche	LaTouche	Perry	Pt. Helen	Pt. Helen	Pt. Helen
B/CLASS: EL	U	U	U	U	U	U
B/CLASS: CAT	3	3	3	3	3	3
B/CLASS: HAB	Boulder/Cob	Boulder/Cob	Unclassified	Boulder/Cob	Boulder/Cob	Boulder/Cob
GEO/CLASS:	C/BPB	C/BPB	C/BPB	C/BPB	C/BPB	C/BPB
EXPOSURE INDEX	HE	HE	HE	HE	HE	HE
COMMENTS:	OF (RPI)	OF (RPI)	No Oil (RPI)	OF (RPI)	OF (RPI)	OF (RPI)
TRENCH,DEPTH:	Tr B, 35-41cm	Tr B, 35-41cm	Tr A, 34-45cm	Tr B, 30-50cm	Tr B, 30-50cm	Tr B, 30-50cm
TYPE:	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	0.0005	0.0002	nd (L)	0.0004	0.0004	0.0004
C-1 NAPH	0.0010	0.0004	nd (L)	0.0011	0.0010	0.0011
C-2 NAPH	0.0016	0.0007	nd (L)	0.0019	0.0010	0.0015
C-3 NAPH	0.0043	0.0014	nd (L)	0.0048	0.0024	0.0036
C-4 NAPH	0.0071	0.0021	nd (L)	0.0089	0.0045	0.0067
FLU	0.0003	0.0001	nd (L)	0.0002	nd (L)	0.0001
C-1 FLU	0.0028	0.0012	nd (L)	0.0024	0.0016	0.0020
C-2 FLU	0.0069	0.0027	nd (L)	0.0110	0.0100	0.0110
C-3 FLU	0.0110	0.0041	nd (L)	0.0110	0.0100	0.0110
DBT	0.0014	0.0003	nd (L)	nd (L)	nd (L)	nd (L)
C-1 DBT	0.0031	0.0007	nd (L)	0.0032	0.0019	0.0026
C-2 DBT	0.0120	0.0040	nd (L)	0.0170	0.0076	0.0120
C-3 DBT	0.0170	0.0064	nd (L)	0.0310	0.0150	0.0230
PHEN	0.0019	0.0011	0.0019	0.0015	0.0009	0.0012
C-1 PHEN	0.0086	0.0047	0.0018	0.0074	0.0110	0.0092
C-2 PHEN	0.0190	0.0090	0.0020	0.0240	0.0110	0.0180
C-3 PHEN	0.0250	0.0110	0.0052	0.0410	0.0170	0.0290
ANT	0.0015	0.0009	0.0005	nd (L)	0.0003	0.0001
NBTP	0.0016	0.0005	0.0020	0.0012	0.0012	0.0012
C-1 NBTP	0.0200	0.0061	0.0100	0.0440	0.0180	0.0310
C-2 NBTP	0.0400	0.0150	0.0330	0.0720	0.0340	0.0530
C-3 NBTP	0.0820	0.0640	0.0600	0.1800	0.1100	0.1500
FLURANT	0.0011	0.0007	0.0091	0.0005	0.0004	0.0004
PYR	0.0019	0.0013	0.0082	0.0013	0.0011	0.0012
C-1 PYR	0.0083	0.0050	0.0055	0.0180	0.0140	0.0160
C-2 PYR	0.0240	0.0150	0.0096	0.0700	0.0540	0.0620
B(a)ANT	0.0028	0.0019	0.0067	0.0004	0.0007	0.0005
CHRY	0.0081	0.0047	0.0091	0.0170	0.0120	0.0150
C-1 CHRY	0.0160	0.0090	0.0110	0.0320	0.0240	0.0280
C-2 CHRY	0.0480	0.0280	0.0220	0.0630	0.0440	0.0540
B(b)F**	0.0033	0.0035	0.0099	0.0026	0.0013	0.0020
B(e)P	0.0052	0.0037	0.0057	0.0110	0.0022	0.0066
B(a)P	0.0028	0.0019	0.0051	0.0015	0.0012	0.0014
PERYL	0.0027	0.0017	0.0014	0.0010	0.0006	0.0008
INDPYR	0.0009	0.0002	0.0023	nd (L)	nd (L)	nd (L)
DIBENZ	0.0036	0.0059	0.0039	0.0074	0.0050	0.0062
BENZPER	0.0010	0.0004	0.0015	0.0015	0.0011	0.0013
Total Target AH:	0.4000	0.2200	0.2300	0.6900	0.4200	0.5600
FFPI***	0.8687	0.8327	0.6768	0.8936	0.8791	0.8885
C3Da/C3Db	1.8300	1.6420	nd	1.9300	1.8800	1.9050
C3Pa/Pb	1.1200	1.2200	1.0400	1.0200	1.2300	1.1250
C1PYa/PYb	0.4100	0.4250	1.2300	0.3600	0.3600	0.3600
C1CYa/CYb	4.8800	4.6267	3.8700	14.0000	nd	7.0000
NOR/HOP	0.8000	0.6833	0.6200	0.7000	0.7200	0.7100
C3D/C3P	3.0000	1.4325	0.5600	0.8700	0.9600	0.9150
nC-17/pristane	0.4900	0.7733	1.7600	1.7700	1.4900	1.6300
nC-18/phytane	0.4600	0.7183	1.4100	1.8100	1.2500	1.5300
% Dry Wt	-	-	-	-	-	-
TPH (ppt)	-	0.39	0.05	1.00	1.00	1.00

MS FILE	ED4307E	ED5008H	AVERAGE (2)	ED4315D	ED5008C	ED5010D
LSU ID	N4210-085	N4210-085R	N4210-085X	N4210-088	N4210-088R	N4210-088R
SAMPLE ID	N01-02	N01-02	N01-02	N01-01	N01-01	N01-01
n=*	NA	NA	NA	NA	NA	NA
LOCATION	Pt. Helen	Pt. Helen	Pt. Helen	Pt. Helen	Pt. Helen	Pt. Helen
B/CLASS: EL	U	U	U	U	U	U
B/CLASS: CAT	3	3	3	3	3	3
B/CLASS: HAB	Boulder/Cob	Boulder/Cob	Boulder/Cob	Boulder/Cob	Boulder/Cob	Boulder/Cob
GEO/CLASS:	C/BPB	C/BPB	C/BPB	C/BPB	C/BPB	C/BPB
EXPOSURE INDEX	HE	HE	HE	HE	HE	HE
COMMENTS:	MOR (RPI)	MOR (RPI)	MOR (RPI)	HOR (RPI)	HOR (RPI)	HOR (RPI)
TRENCH,DEPTH:	Tr C, 60-65cm	Tr C, 60-65cm	Tr C, 60-65cm	Tr B, 66cm	Tr B, 66cm	Tr B, 66cm
TYPE:	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	0.0440	0.0240	0.0340	0.1300	0.0890	0.1900
C-1 NAPH	1.4000	0.7200	1.1000	4.1000	2.6000	5.8000
C-2 NAPH	16.0000	8.1000	12.0000	25.0000	15.0000	38.0000
C-3 NAPH	27.0000	14.0000	21.0000	41.0000	21.0000	56.0000
C-4 NAPH	20.0000	10.0000	15.0000	31.0000	15.0000	41.0000
FLU	0.6900	0.3600	0.5300	1.2000	0.7000	1.5000
C-1 FLU	4.9000	2.7000	3.8000	7.5000	3.9000	8.3000
C-2 FLU	9.5000	5.8000	7.7000	19.0000	8.8000	16.0000
C-3 FLU	9.5000	6.3000	7.9000	55.0000	10.0000	17.0000
DBT	1.4000	0.8700	1.1000	2.9000	1.6000	3.1000
C-1 DBT	7.2000	4.9000	6.1000	14.0000	6.8000	12.0000
C-2 DBT	13.0000	9.7000	11.0000	30.0000	15.0000	25.0000
C-3 DBT	13.0000	8.8000	11.0000	30.0000	14.0000	24.0000
PHEN	2.9000	1.9000	2.4000	5.5000	3.0000	5.8000
C-1 PHEN	13.0000	9.3000	11.0000	26.0000	14.0000	24.0000
C-2 PHEN	20.0000	15.0000	18.0000	44.0000	23.0000	41.0000
C-3 PHEN	18.0000	13.0000	16.0000	41.0000	23.0000	39.0000
ANT	nd (H)	nd (H)	nd (H)	nd (H)	nd (H)	nd (H)
NBTP	1.9000	0.9900	1.4000	3.3000	1.8000	3.5000
C-1 NBTP	6.6000	3.4000	5.0000	10.0000	6.8000	15.0000
C-2 NBTP	7.8000	3.2000	5.5000	12.0000	8.2000	20.0000
C-3 NBTP	6.7000	2.1000	4.4000	7.8000	6.1000	18.0000
FLURANT	0.0960	0.0660	0.0810	0.1400	0.2100	0.1600
PYR	0.4800	0.3000	0.3900	0.8200	0.4600	0.8100
C-1 PYR	3.1000	1.9000	2.5000	5.4000	3.4000	6.1000
C-2 PYR	5.8000	3.2000	4.5000	9.7000	6.0000	12.0000
B(a)ANT	0.2300	0.0690	0.1500	0.1400	0.1400	0.2400
CHRY	3.1000	1.3000	2.2000	3.0000	2.5000	4.5000
C-1 CHRY	4.6000	1.5000	3.1000	4.3000	3.8000	7.3000
C-2 CHRY	5.3000	1.7000	3.5000	4.6000	4.8000	11.0000
B(b)F**	0.4000	0.0930	0.2500	0.2100	0.3500	0.5500
B(e)P	0.3700	0.0840	0.2300	0.2400	0.3000	0.7200
B(a)P	nd (H)	0.0160	0.0080	0.0570	0.0640	0.0950
PERYL	nd (H)	nd (H)	nd (H)	nd (H)	nd (H)	nd (H)
INDPYR	nd (H)	nd (H)	nd (H)	nd (H)	nd (H)	nd (H)
DIBENZ	0.1000	0.0250	0.0630	0.0570	0.0660	0.2000
BENZPER	nd (H)	0.0100	0.0050	0.0170	0.0260	0.0750
Total Target AH:	220.0000	130.0000	180.0000	440.0000	220.0000	460.0000
FFPI***	0.9260	0.9295	0.9280	0.9424	0.9271	0.9368
C3Da/C3Db	2.0700	2.0180	2.0440	2.0000	1.8700	2.0400
C3Pa/Pb	1.0300	1.0260	1.0280	1.0000	0.9890	1.0400
C1PYa/PYb	0.6500	0.6150	0.6325	0.6000	0.5730	0.5760
C1CYa/CYb	2.2900	2.1300	2.2100	2.1800	2.1000	2.0100
NOR/HOP	0.8200	0.8690	0.8445	0.7800	0.7450	0.7520
C3D/C3P	0.8300	0.8300	0.8300	0.8500	0.7900	0.7830
nC-17/pristane	0.6000	0.5580	0.5790	1.5300	1.5700	1.5200
nC-18/phytane	0.4500	0.5000	0.4750	1.4900	1.4300	1.4900
% Dry Wt	-	-	-	-	-	-
TPH (ppt)	9.00	7.90	8.40	-	18.00	-

MS FILE	AVERAGE (3)	ED4315C	ED5008F	ED5010C	AVERAGE (3)	ED4315E
LSU ID	N4210-088X	N4210-086	N4210-086R	N4210-086R	N4210-086X	N4210-089
SAMPLE ID	N01-01	N03-01	N03-01	N03-01	N03-01	N03-02
n=*	NA	NA	NA	NA	NA	NA
LOCATION	Pt. Helen	Smith Is, N3	Smith Is, N3	Smith Is, N3	Smith Is, N3	Smith Is, N3
B/CLASS: EL	U	U	U	U	U	U
B/CLASS: CAT	3	3	3	3	3	3
B/CLASS: HAB	Boulder/Cob	Boulder/Cob	Boulder/Cob	Boulder/Cob	Boulder/Cob	Boulder/Cob
GEO/CLASS:	C/BPB	C/BPB	C/BPB	C/BPB	C/BPB	C/BPB
EXPOSURE INDEX	HE	HE	HE	HE	HE	HE
COMMENTS:	HOR (RPI)	HOR (RPI)	HOR (RPI)	HOR (RPI)	HOR (RPI)	HOR (RPI)
TRENCH,DEPTH:	Tr B, 66cm	Tr A, 25-35cm	Tr A, 25-35cm	Tr A, 25-35cm	Tr A, 25-35cm	Tr B, 15-25cm
TYPE:	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.	Sub. Sed.
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	0.1400	0.0580	0.0480	0.0800	0.0620	0.0230
C-1 NAPH	4.2000	1.9000	1.3000	2.2000	1.8000	0.4300
C-2 NAPH	26.0000	25.0000	18.0000	30.0000	24.0000	9.2000
C-3 NAPH	40.0000	36.0000	26.0000	42.0000	35.0000	21.0000
C-4 NAPH	29.0000	27.0000	19.0000	32.0000	26.0000	22.0000
FLU	1.1000	1.0000	0.7900	1.0000	0.9300	0.4300
C-1 FLU	6.6000	5.4000	4.3000	5.5000	5.1000	3.5000
C-2 FLU	15.0000	13.0000	9.5000	11.0000	11.0000	12.0000
C-3 FLU	16.0000	16.0000	11.0000	11.0000	13.0000	19.0000
DBT	2.5000	2.1000	1.7000	2.1000	2.0000	0.7000
C-1 DBT	11.0000	9.7000	7.3000	8.2000	8.4000	5.8000
C-2 DBT	24.0000	21.0000	15.0000	16.0000	17.0000	22.0000
C-3 DBT	23.0000	23.0000	14.0000	16.0000	18.0000	28.0000
PHEN	4.8000	3.8000	3.1000	3.7000	3.5000	1.1000
C-1 PHEN	21.0000	18.0000	14.0000	15.0000	16.0000	8.9000
C-2 PHEN	36.0000	33.0000	23.0000	25.0000	27.0000	27.0000
C-3 PHEN	34.0000	33.0000	23.0000	26.0000	27.0000	37.0000
ANT	nd (H)	nd (H)	nd (H)	nd (H)	nd (H)	nd (H)
NBTP	2.9000	3.1000	1.9000	2.5000	2.5000	3.0000
C-1 NBTP	11.0000	11.0000	7.0000	11.0000	9.7000	12.0000
C-2 NBTP	13.0000	14.0000	8.1000	15.0000	12.0000	14.0000
C-3 NBTP	11.0000	10.0000	6.0000	14.0000	10.0000	9.4000
FLURANT	0.1700	0.1100	0.0930	0.1100	0.1000	0.1200
PYR	0.7000	0.6500	0.4700	0.5600	0.5600	0.8300
C-1 PYR	5.0000	4.8000	3.7000	4.4000	4.3000	5.6000
C-2 PYR	9.4000	9.3000	6.2000	9.1000	8.2000	11.0000
B(a)ANT	0.1700	0.1400	0.0310	0.1800	0.1200	0.1100
CHRY	3.3000	2.9000	2.5000	3.2000	2.9000	3.1000
C-1 CHRY	5.1000	4.4000	4.1000	6.0000	4.8000	4.5000
C-2 CHRY	6.9000	5.8000	4.8000	9.2000	6.6000	5.5000
B(b)F**	0.3700	0.2300	0.1900	0.4800	0.3000	0.2500
B(e)P	0.4200	0.3400	0.2700	0.5800	0.4000	0.2800
B(a)P	0.0720	0.0790	0.0390	0.1000	0.0730	nd (H)
PERYL	nd (H)	nd (H)	nd (H)	nd (H)	nd (H)	nd (H)
INDPYR	nd (H)	nd (H)	nd (H)	nd (H)	nd (H)	nd (H)
DIBENZ	0.1100	0.0720	0.0600	0.2100	0.1100	0.0590
BENZPER	0.0390	0.0260	0.0200	0.0960	0.0470	nd (H)
Total Target AH:	360.0000	340.0000	240.0000	320.0000	300.0000	290.0000
FFPI***	0.9360	0.9403	0.9318	0.9380	0.9367	0.9486
C3Da/C3Db	2.0000	1.9800	1.8700	2.1750	2.0083	1.7800
C3Pa/Pb	1.0000	1.0500	1.0100	1.0100	1.0233	1.0200
C1PYa/PYb	0.5800	0.6400	0.6220	0.6030	0.6217	0.5900
C1CYa/CYb	2.1000	2.1000	2.1700	2.1330	2.1343	2.6100
NOR/HOP	0.7600	0.7900	0.8670	0.7100	0.7890	0.8000
C3D/C3P	0.8100	0.8400	0.7360	0.7580	0.7780	0.9200
nC-17/pristane	1.5000	nd	nd	nd	nd	nd
nC-18/phytane	1.5000	nd	nd	nd	nd	nd
% Dry Wt	-	-	-	-	-	-
TPH (ppt)	18.00	15.00	17.00	-	16.00	17.00

MS FILE	ED5008D	AVERAGE (2)	NSC AVG (40)		
LSU ID	N4210-089R	N4210-089X	NSC MEAN	EST. DET. LIM.	EST. DET. LIM.
SAMPLE ID	N03-02	N03-02	NSC REF	EST. DET. LIM.	EST. DET. LIM.
n=*	NA	NA	NA	EST. DET. LIM.	EST. DET. LIM.
LOCATION	Smith Is, N3	Smith Is, N3	NA	EST. DET. LIM.	EST. DET. LIM.
B/CLASS: EL	U	U	NA	EST. DET. LIM.	EST. DET. LIM.
B/CLASS: CAT	3	3	NA	EST. DET. LIM.	EST. DET. LIM.
B/CLASS: HAB	Boulder/Cob	Boulder/Cob	NA	EST. DET. LIM.	EST. DET. LIM.
GEO/CLASS:	C/BPB	C/BPB	NA	EST. DET. LIM.	EST. DET. LIM.
EXPOSURE INDEX	HE	HE	NA	EST. DET. LIM.	EST. DET. LIM.
COMMENTS:	HOR (RPI)	HOR (RPI)	NA	EST. DET. LIM.	EST. DET. LIM.
TRENCH,DEPTH:	Tr B, 15-25cm	Tr B, 15-25cm	NA	EST. DET. LIM.	EST. DET. LIM.
TYPE:	Sub. Sed.	Sub. Sed.	XBulk Oil	CLAM/MUS.	SED. LOW
COMPOUNDS	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)	ng/mg (wet)
NAPH	0.0170	0.0200	1200.0000	0.0010	0.0001
C-1 NAPH	0.3200	0.3800	2700.0000	0.0010	0.0001
C-2 NAPH	7.2000	8.2000	3400.0000	0.0010	0.0001
C-3 NAPH	15.0000	18.0000	2600.0000	0.0010	0.0001
C-4 NAPH	15.0000	19.0000	1400.0000	0.0010	0.0001
FLU	0.2900	0.3600	140.0000	0.0010	0.0001
C-1 FLU	2.7000	3.1000	600.0000	0.0010	0.0001
C-2 FLU	8.5000	10.0000	560.0000	0.0010	0.0001
C-3 FLU	13.0000	16.0000	520.0000	0.0010	0.0001
DBT	0.5500	0.6300	290.0000	0.0010	0.0005
C-1 DBT	4.3000	5.1000	500.0000	0.0010	0.0005
C-2 DBT	15.0000	19.0000	750.0000	0.0010	0.0005
C-3 DBT	18.0000	23.0000	660.0000	0.0010	0.0005
PHEN	0.9700	1.0000	420.0000	0.0010	0.0005
C-1 PHEN	6.9000	7.9000	950.0000	0.0010	0.0005
C-2 PHEN	19.0000	23.0000	1200.0000	0.0010	0.0005
C-3 PHEN	27.0000	32.0000	1000.0000	0.0010	0.0005
ANT	nd (H)	nd (H)	0.0000	0.0010	0.0005
NBTP	2.2000	2.6000	90.0000	0.0010	0.0005
C-1 NBTP	9.4000	11.0000	380.0000	0.0010	0.0005
C-2 NBTP	11.0000	13.0000	520.0000	0.0010	0.0005
C-3 NBTP	8.6000	9.0000	480.0000	0.0010	0.0005
FLURANT	0.1100	0.1200	4.8000	0.0010	0.0005
PYR	0.6500	0.7400	23.0000	0.0010	0.0005
C-1 PYR	4.3000	5.0000	170.0000	0.0010	0.0005
C-2 PYR	8.6000	9.8000	310.0000	0.0010	0.0005
B(a)ANT	0.1300	0.1200	7.8000	0.0010	0.0010
CHRY	3.2000	3.2000	130.0000	0.0010	0.0010
C-1 CHRY	5.0000	4.8000	260.0000	0.0010	0.0010
C-2 CHRY	6.7000	6.1000	400.0000	0.0010	0.0010
B(b)F**	0.3000	0.2800	17.0000	0.0010	0.0010
B(e)P	0.4000	0.3400	29.0000	0.0010	0.0010
B(a)P	0.0600	0.0300	5.6000	0.0010	0.0010
PERYL	nd (H)	nd (H)	1.3000	0.0010	0.0010
INDPYR	nd (H)	nd (H)	0.7500	0.0010	0.0010
DIBENZ	0.0850	0.0720	9.0000	0.0010	0.0010
BENZPER	0.0350	0.0180	4.2000	0.0010	0.0010
Total Target AH:	210.0000	250.0000	22000.0000		
FFPI***	0.9368	0.9436	0.9479	Note:	Note:
C3Da/C3Db	1.6500	1.7150	2.0306	All samples	All samples
C3Pa/Pb	1.0100	1.0150	1.0267	below det. lim.	below det. lim.
C1PYa/PYb	0.5890	0.5895	0.5654	listed as: nd(T)	listed as: nd(L)
C1CYa/CYb	2.6200	2.6150	2.0357		
NOR/HOP	0.8210	0.8105	0.6997		
C3D/C3P	0.8570	0.8885	0.8060		
nC-17/pristane	nd	nd	2.4322		
nC-18/phytane	nd	nd	2.4121		
% Dry Wt	-	-	-		
TPH (ppt)	-	17.00	-		

MS FILE	
LSU ID	EST. DET. LIM.
SAMPLE ID	EST. DET. LIM.
n=*	EST. DET. LIM.
LOCATION	EST. DET. LIM.
B/CLASS: EL	EST. DET. LIM.
B/CLASS: CAT	EST. DET. LIM.
B/CLASS: HAB	EST. DET. LIM.
GEO/CLASS:	EST. DET. LIM.
EXPOSURE INDEX	EST. DET. LIM.
COMMENTS:	EST. DET. LIM.
TRENCH,DEPTH:	EST. DET. LIM.
TYPE:	SED. H
COMPOUNDS	ng/mg (wet)
NAPH	0.0100
C-1 NAPH	0.0100
C-2 NAPH	0.0100
C-3 NAPH	0.0100
C-4 NAPH	0.0100
FLU	0.0100
C-1 FLU	0.0100
C-2 FLU	0.0100
C-3 FLU	0.0100
DBT	0.0500
C-1 DBT	0.0500
C-2 DBT	0.0500
C-3 DBT	0.0500
PHEN	0.0500
C-1 PHEN	0.0500
C-2 PHEN	0.0500
C-3 PHEN	0.0500
ANT	0.0500
NBTP	0.0500
C-1 NBTP	0.0500
C-2 NBTP	0.0500
C-3 NBTP	0.0500
FLURANT	0.0500
PYR	0.0500
C-1 PYR	0.0500
C-2 PYR	0.0500
B(a)ANT	0.1000
CHRY	0.1000
C-1 CHRY	0.1000
C-2 CHRY	0.1000
B(b)F**	0.1000
B(e)P	0.1000
B(a)P	0.1000
PERYL	0.1000
INDPYR	0.1000
DIBENZ	0.1000
BENZPER	0.1000
Total Target AH:	
FFPI***	Note:
C3Da/C3Db	All samples
C3Pa/Pb	below det. lim.
C1PYa/PYb	listed as: nd(H)
C1CYa/CYb	
NOR/HOP	
C3D/C3P	
nC-17/pristane	
nC-18/phytane	
% Dry Wt	
TPH (ppt)	

APPENDIX B

STATISTICAL COMPARISON OF 1994 PRINCE WILLIAM SOUND SAMPLES ANALYZED

Terminology and Acronyms

AP	asphalt pavement
D	duplicate extractions
DUP	duplicate
ID	identification
LSU	Louisiana State University
RPD	Relative Percent Deviation
R	replicated analyses
S	number of samples
SS	surface sediments
SSS	subsurface sediments
Tr	trace

The statistical table for the replicated and duplicated samples for the 1994 Prince William Sound monitoring project.

LSU Sample ID	Dup RPD**	n*	Average RPD**	Site/Location	Type	Average Concentration (ng/mg)
N4210-081	1S/0D/2R	—	16	Bay of Isles, Tr. A	AP	150
N4210-010	1S/0D/1R	—	31	Block Island, Clear Plot 4-1	Clam	0.26
N4210-032	1S/1D/0R	20	20	Outside Bay, Soft	Clam	0.01
N4188-007	1S/1D/0R	32	32	Block Island, Clear Plot 1-1	Clam	0.19
N4188-058***	1S/1D/0R	50	50	Elrington West	Clam	0.008
N4210-005	1S/1D/1R	67	30	Bay of Isles, Rocky	Mussel	0.006
N4210-020	1S/0D/1R	—	6.7	Block Island, Soft	Mussel	0.23
N4210-023	1S/0D/1R	—	4.3	Block Island, Clear Plot 4-2	Mussel	0.12
N4210-035	1S/0D/1R	—	27	Crab Bay, Soft	Mussel	0.013
N4210-030	1S/0D/1R	—	91	Crafton, Soft	Mussel	0.022
N4210-007	1S/0D/1R	—	17	Herring Bay, Soft	Mussel	0.0029
N4210-031	1S/0D/1R	—	55	Herring Bay, Rocky	Mussel	0.011
N4210-029	1S/0D/1R	—	2.7	Mussel Beach, South	Mussel	0.018
N4210-013	1S/1D/2R	21	54	Knight Island, N-7 transect sample	Mussel	0.034
N4210-006	1S/1D/2R	17	15	Herring Bay, N-13 transect sample	Mussel	0.033
N4210-028	1S/1D/2R	10	22	LaTouche, N-15 transect sample	Mussel	0.056
N4210-034	1S/0D/1R	—	63	Northwest Bay, West Arm	Mussel	0.010
N4210-011	1S/1D/1R	40	72	Outside Bay, Soft	Mussel	0.0034
N4210-008	1S/0D/1R	—	14	Sleepy Bay, PES -51 Test Site	Mussel	0.40
N4210-024	1S/1D/1R	49	37	Sleepy Bay, PES -51 'Control' Site	Mussel	0.020
N4210-037	1S/1D/1R	15	7.7	Smith Island, WestRock	Mussel	0.13
N4210-039	1S/1D/0R	18	18	Snug Harbor, Rocky	Mussel	0.025
N4210-061	1S/1D/2R	35	34	Northwest Bay Islet, Composite		0.82
N4210-083	1S/0D/1R	—	25	Northwest Bay Islet, Alan's Spot		240
N4210-076	1S/0D/1R	—	6.7	Smith Island, Below Tr. B		2.3
N4210-100	1S/0D/1R	—	20	Block Island, Clear Plot 4-3		2.0
N4210-094	1S/0D/1R	—	0	Herring Bay, N-10 Tr X		13
N4210-065	1S/0D/1R	—	0	Knight Island, N-7 Tr A		1.6
N4210-065	1S/1D/4R	6	46	LaTouche, N-15 Tr B		0.22
N4210-063	1S/1D/0R	25	25	Point Helen, N-1 Tr B		0.56
N4210-085	1S/0D/1R	—	28	Point Helen, N-1 Tr C		180
N4210-088	1S/0D/2R	—	30	Point Helen, N-1 Tr B		360
N4210-086	1S/0D/2R	—	13	Smith Island, N-3 Tr. A		300
N4210-089	1S/0D/1R	—	16	Smith Island, N-3 Tr. B		250

* Number of samples (S), duplicate extractions (D), replicated analyses (R)

** Relative Percent Deviation

*** Significant matrix interferences prohibited assessment of all components.

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